Erratum: Measurements of prompt charm production cross-sections in pp collisions at root s = 13 TeV (vol 03, 159, 2016)

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Erratum 2: Measurements of prompt charm production cross-sections in pp collisions at $\sqrt{s} = 13$ TeV

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An issue has been identified in the simulated samples used to calculate the efficiencies, which affects the published cross-section measurements from pp collisions at $\sqrt{s} = 13\,\text{TeV}$ [1]. What follows is a brief description of the nature of the problems, before the corrected results are given.

The charge collected in the LHCb VELO sensors is affected by radiation damage. One such effect, which is more pronounced in the outer regions of downstream sensors, arises from charge induction on second metal layer routing lines [2]. Prior to the start of Run 2, modifications were made to the digitization step in the LHCb simulation framework to model this effect. An error was made in the parametric implementation resulting in a reduction of the track reconstruction efficiency in simulation compared to data for tracks with low pseudorapidity. The tracking efficiency calibration procedure that was applied in this paper to the data and simulation [3] was unable to correct the mismodelling.

All results presented in the paper are affected and a similar pattern is seen for all four different mesons. The corrected cross-sections are generally lower with the largest difference at low rapidities and almost no change at high rapidities.

The corrected inclusive cross-sections for the four mesons, including charge conjugation, within the range of $1 < p_{\text{T}} < 8$ GeV/c are:

$$\begin{aligned}
\sigma(pp \to D^0 X) &= 2072 \pm 2 \pm 124\,\mu\text{b}, \\
\sigma(pp \to D^+ X) &= 834 \pm 2 \pm 78\,\mu\text{b}, \\
\sigma(pp \to D_s^+ X) &= 353 \pm 9 \pm 76\,\mu\text{b}, \\
\sigma(pp \to D^{*+} X) &= 784 \pm 4 \pm 87\,\mu\text{b},
\end{aligned}$$

The estimated $c\bar{c}$ cross-section is:

$$\sigma(pp \to c\bar{c}X)_{p_{\text{T}} < 8\ \text{GeV/c},\, 2.0 < y < 4.5} = 2369 \pm 3 \pm 152 \pm 118\,\mu\text{b}.$$

All tables and figures in which the measurements are affected are given below, with the numbering and captions being identical to those in the original paper. The corrected 13 over 7 TeV ratios, shown in figure 7, are now in good agreement with the predictions. The 7 TeV integrated $c\bar{c}$ cross-section scaled by a predicted factor is now also in agreement with the measured cross-section at 13 TeV. Therefore, the statements made in the paragraph beginning "The data are consistently above..." and the paragraph beginning "The absolute predictions for the...", each towards the end of section 7, are no longer supported. The exception is the sentence beginning "The measurements are consistent with..." in the latter paragraph, which is still justified.

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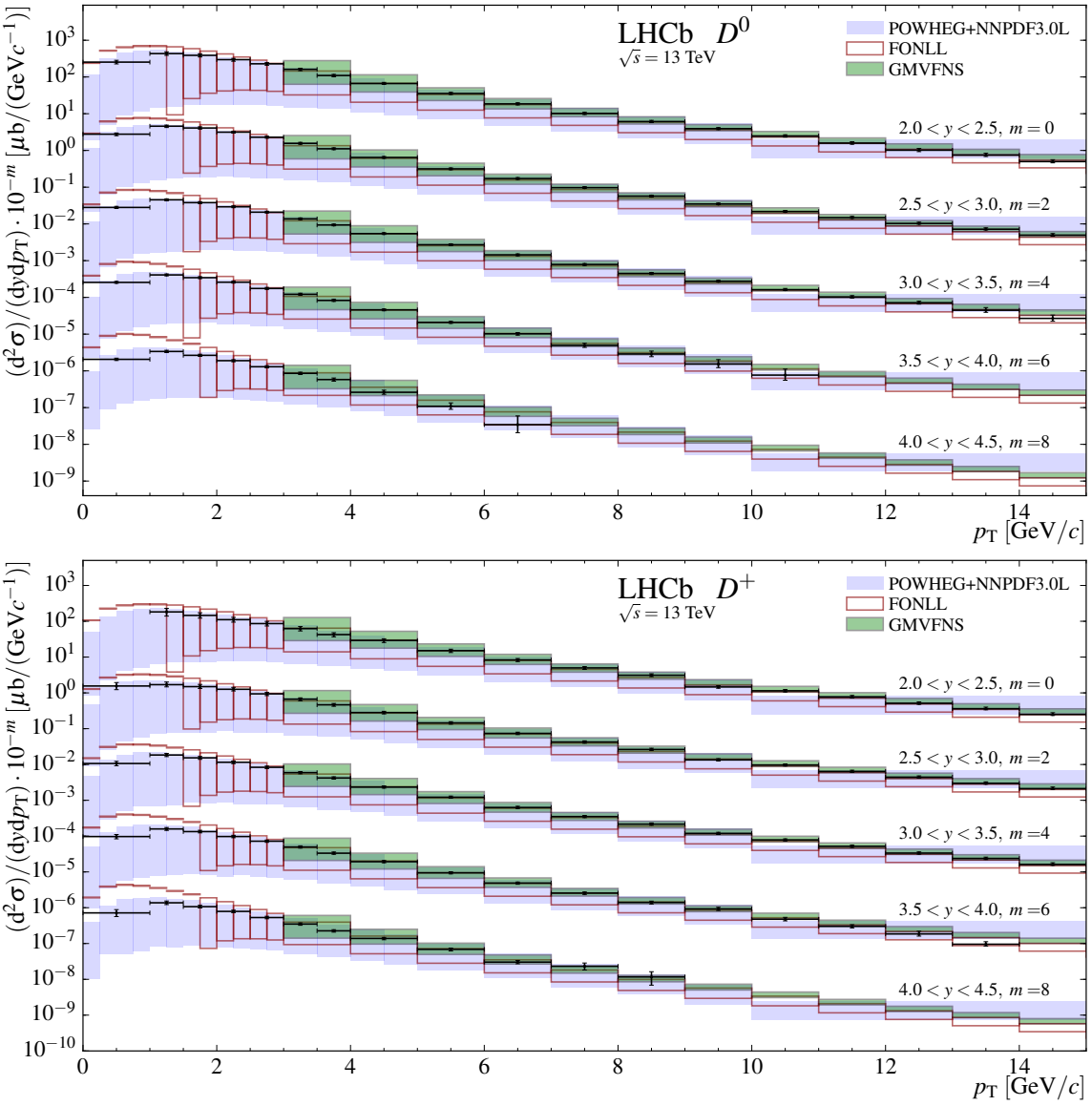

Figure 5. Measurements and predictions for the absolute prompt (top) D^0, and (bottom) D^+ cross-sections at $\sqrt{s} = 13\,\text{TeV}$. Each set of measurements and predictions in a given rapidity bin is offset by a multiplicative factor 10^{-m}, where the factor m is shown on the plots. The boxes indicate the $\pm 1\sigma$ uncertainty band on the theory predictions. In cases where this band spans more than two orders of magnitude only its upper edge is indicated.

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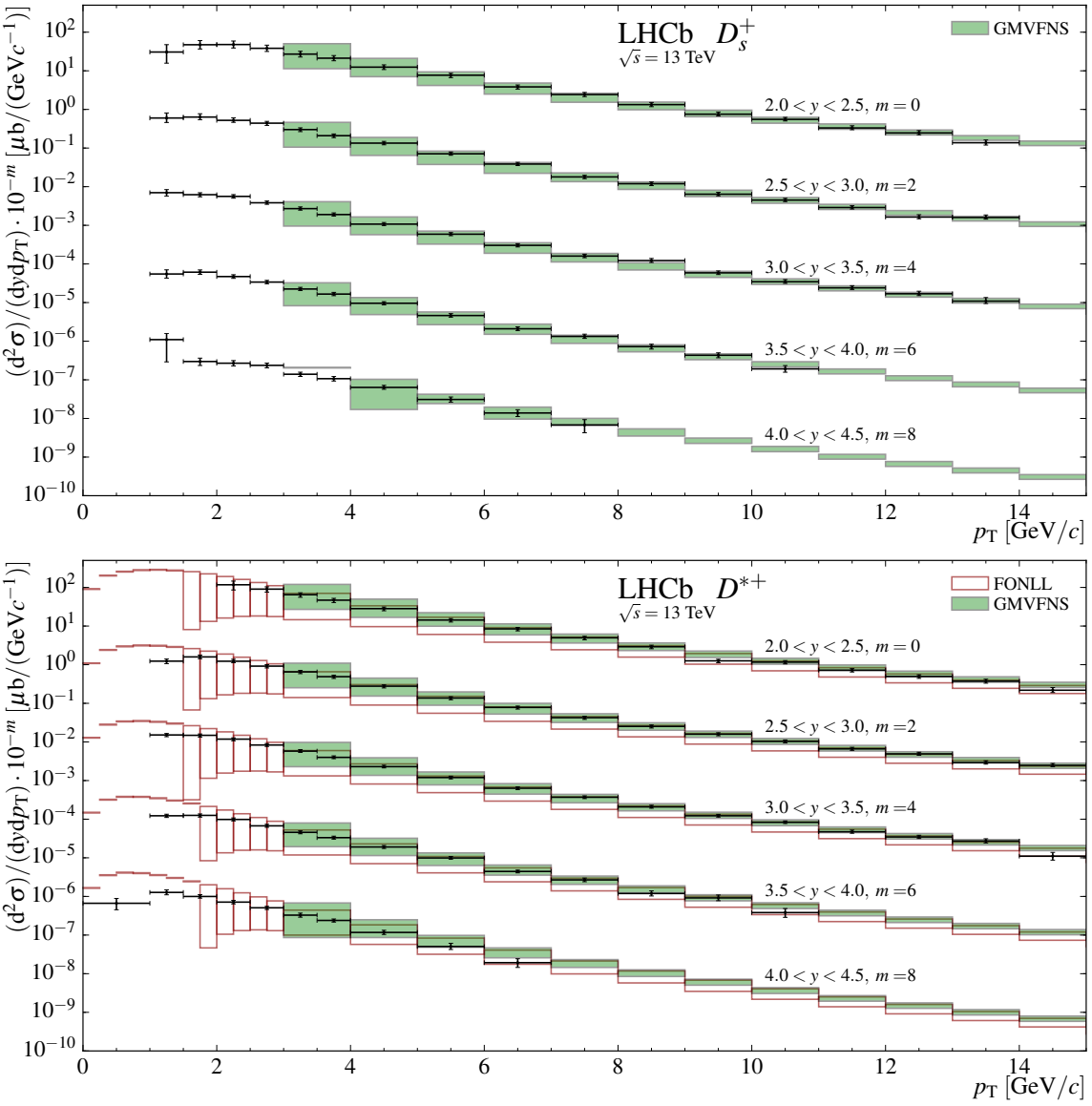

Figure 6. Measurements and predictions for the absolute prompt (top) D_s^+, and (bottom) D^{*+} cross-sections at $\sqrt{s} = 13\,\text{TeV}$. Each set of measurements and predictions in a given rapidity bin is offset by a multiplicative factor 10^{-m}, where the factor m is shown on the plots. The boxes indicate the $\pm 1\sigma$ uncertainty band on the theory predictions. In cases where this band spans more than two orders of magnitude only its upper edge is indicated.

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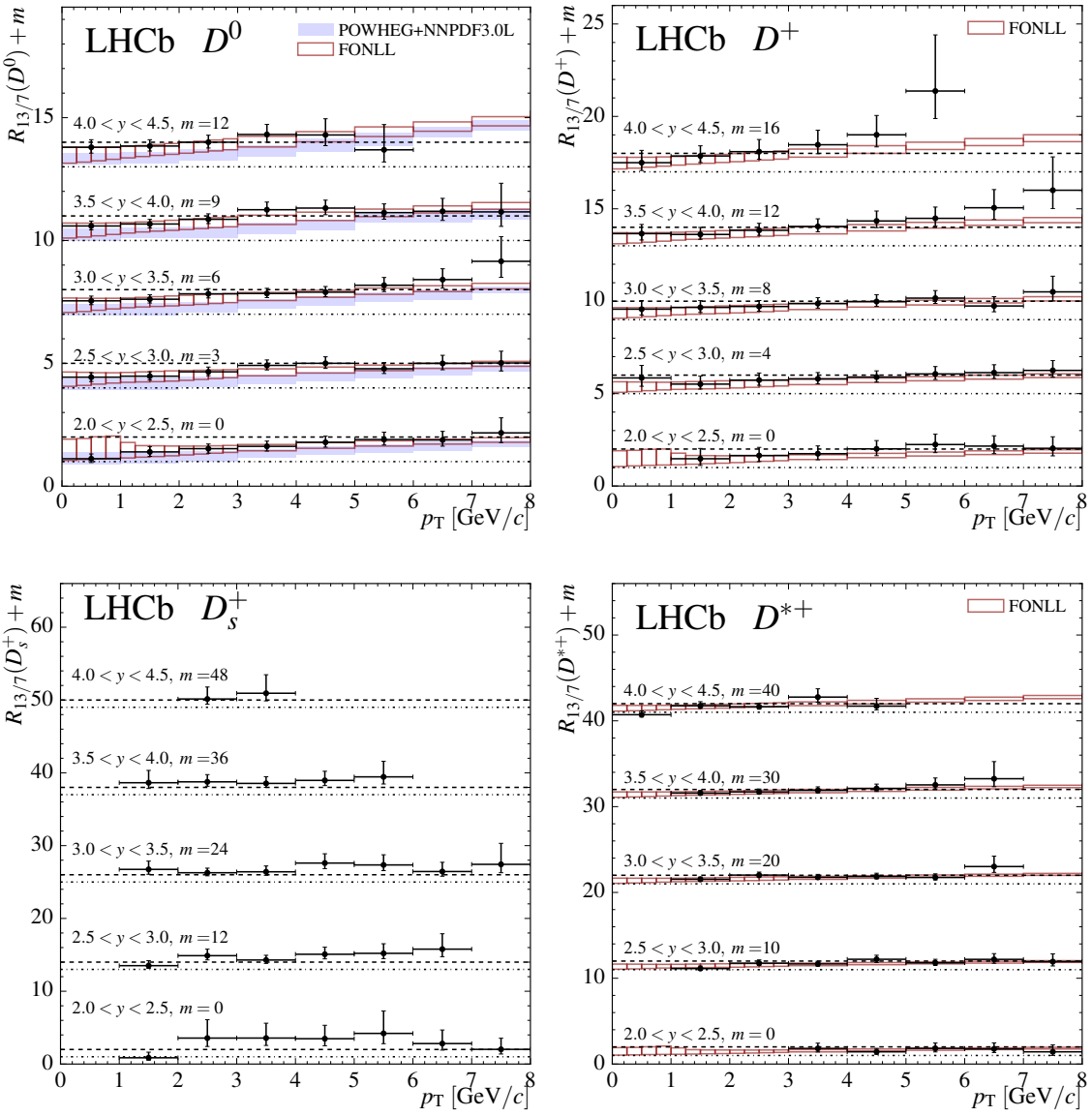

Figure 7. Measurements and predictions of the prompt D^0, D^+, D_s^+, and D^{*+} cross-section ratios. The dash-dotted lines indicate the unit ratio for each of the rapidity intervals and the dashed lines indicate a ratio of two. Each set of measurements and predictions in a given rapidity bin is offset by an additive constant m, which is shown on the plot. No prediction is available for the D_s^+ ratio.

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	Uncertainties (%)				Correlations (%)	
	D^0	D^+	D_s^+	D^{*+}	Bins	Modes
Luminosity	3.9				100	100
Tracking	3–10	4–14	4–14	5–11	90–100	90–100
Branching fractions	1.2	2.1	5.8	1.5	100	0–95
Simulation sample size	1–26	1–39	1–55	1–23	0	0
Simulation modelling	1	1	0.2	0.9	0	0
PID sample size	0–2	0–1	0–2	0–1	0–100	0–100
PID binning	0–44	0–10	0–20	0–15	100	100
PDF shapes	1–6	1–5	1–2	1–2	—	—

Table 2. Systematic uncertainties expressed as fractions of the cross-section measurements, in percent. Uncertainties that are computed bin-by-bin are expressed as ranges giving the minimum to maximum values. Ranges for the correlations between p_{T}-y bins and between modes are also given, expressed in percent.

			Extrapolation factor	Cross-section (µb)
D^0	$0 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2 < y < 4.5$	1.0014 ± 0.0024	$2709 \pm 2 \pm 165$
D^+	$0 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2 < y < 4.5$	1.049 ± 0.031	$1102 \pm 5 \pm 111$
D^0	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2 < y < 4.5$	1.0018 ± 0.0025	$2072 \pm 2 \pm 124$
D^+	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2 < y < 4.5$	—	$834 \pm 2 \pm 78$
D_s^+	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2 < y < 4.5$	—	$353 \pm 9 \pm 76$
D^{*+}	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2 < y < 4.5$	1.102 ± 0.081	$784 \pm 4 \pm 87$
D^0	$0 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2.5 < y < 4$	—	$1720 \pm 1 \pm 98$
D^+	$0 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2.5 < y < 4$	—	$706 \pm 4 \pm 66$
D^0	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2.5 < y < 4$	—	$1313 \pm 1 \pm 73$
D^+	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2.5 < y < 4$	—	$527 \pm 1 \pm 45$
D_s^+	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2.5 < y < 4$	—	$227 \pm 2 \pm 24$
D^{*+}	$1 < p_{\mathrm{T}} < 8\,\mathrm{GeV}/c$	$2.5 < y < 4$	—	$493 \pm 2 \pm 41$

Table 3. Prompt charm production cross-sections in the kinematic ranges given. The computation of the extrapolation factors is described in the text. The first uncertainty on the cross-section is statistical, and the second is systematic and includes the contribution from the extrapolation factor. No extrapolation factor is given for $D^+{}_{(s)}$ as a measurement is available in every bin of the integrated phase space.

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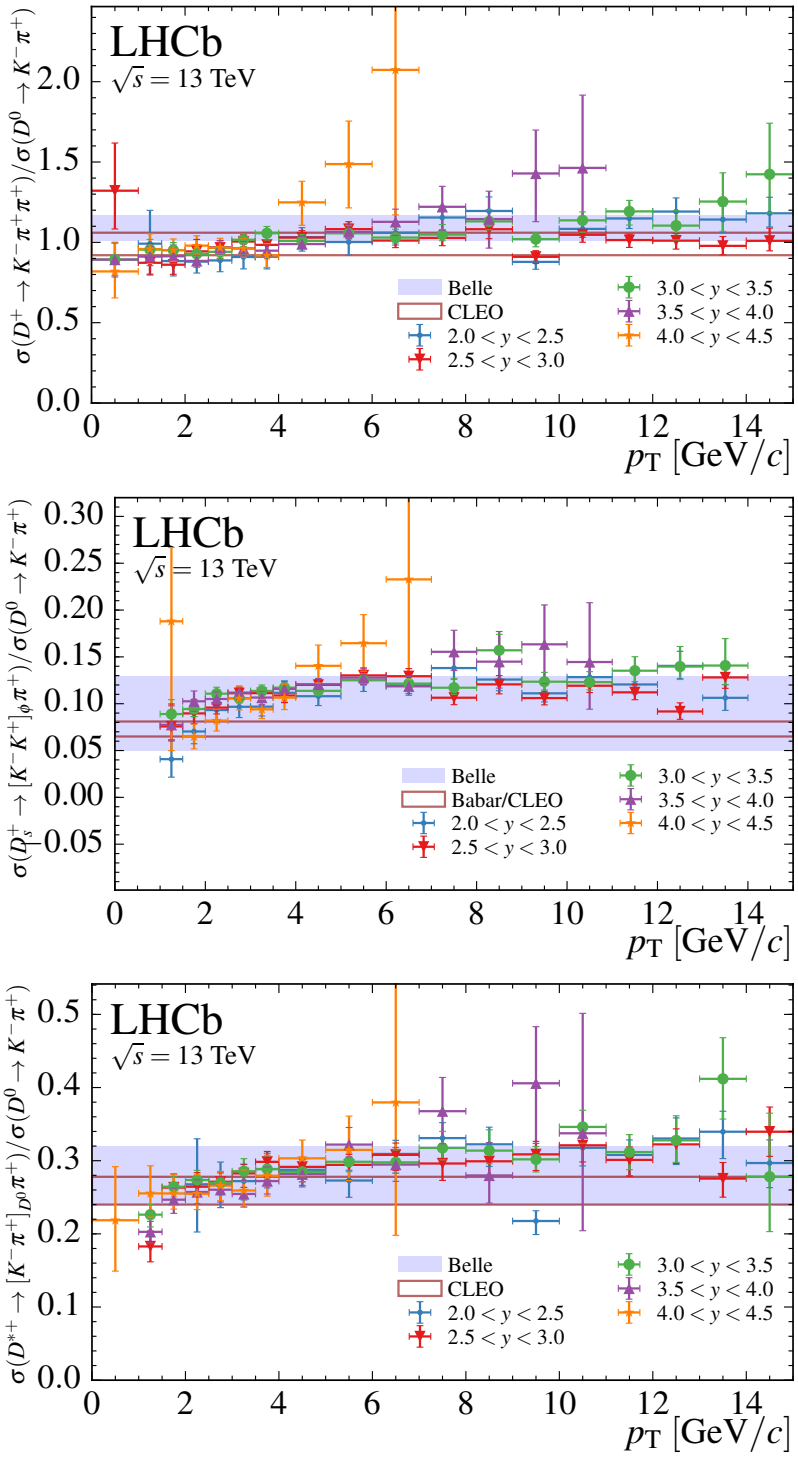

Figure 8. Ratios of cross-section-times-branching-fraction measurements of (top) D^+, (middle) D_s^+, and (bottom) D^{*+} mesons with respect to the D^0 measurements. The bands indicate the corresponding ratios computed using measurements from e^+e^- collider experiments [39–41]. The ratios are given as a function of p_T and different symbols indicate different ranges in y. The notation $\sigma(D \to f)$ is shorthand for $\sigma(D) \times \mathcal{B}(D \to f)$.

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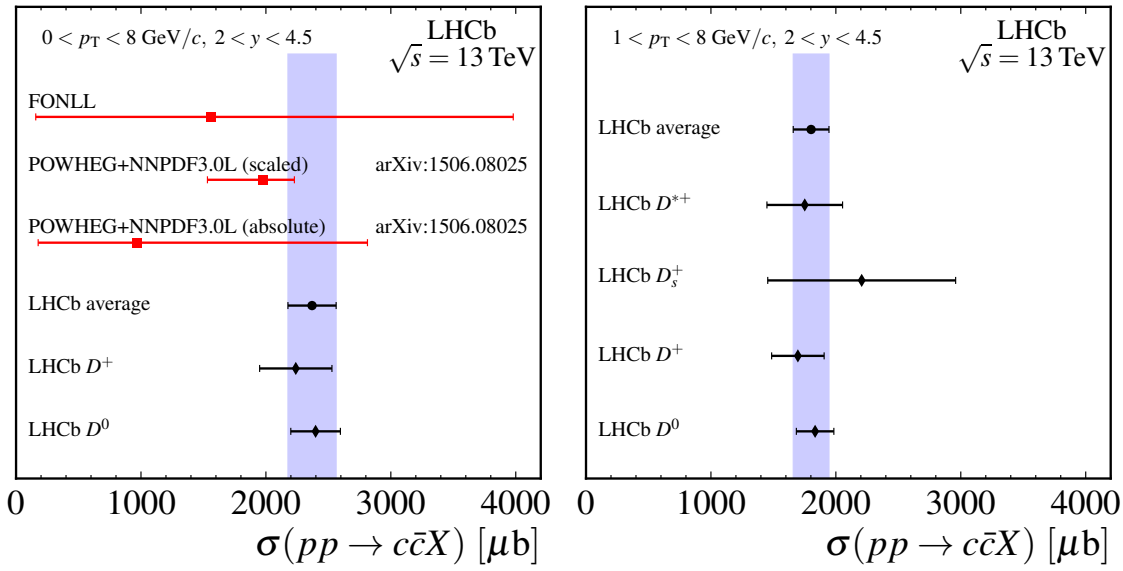

Figure 9. Integrated cross-sections (black diamonds), their average (black circle and blue band) and theory predictions (red squares) [1, 2] are shown (left) based on the D^0 and D^+ for $0 < p_T < 8$ GeV/c and (right) for measurements based on all four mesons for $1 < p_T < 8$ GeV/c. The "absolute" predictions are based on calculations of the 13 TeV cross-section, while the "scaled" predictions are based on calculations of the 13 to 7 TeV ratio multiplied with the LHCb measurement at 7 TeV [16].

Quantity	Measurement
$\sigma(D^+ \to K^-\pi^+\pi^+)/\sigma(D^0 \to K^-\pi^+)$	$0.950^{+\ 0.003+\ 0.040}_{-\ 0.003-\ 0.040}$
$\sigma(D_s^+ \to [K^-K^+]_\phi\pi^+)/\sigma(D^0 \to K^-\pi^+)$	$0.0991^{+0.0026+0.0053}_{-0.0026-0.0079}$
$\sigma(D^{*+} \to [K^-\pi^+]_{D^0}\pi^+)/\sigma(D^0 \to K^-\pi^+)$	$0.256^{+\ 0.001+\ 0.021}_{-\ 0.001-\ 0.021}$
$\sigma(D_s^+ \to [K^-K^+]_\phi\pi^+)/\sigma(D^+ \to K^-\pi^+\pi^+)$	$0.1043^{+0.0028+0.0038}_{-0.0028-0.0066}$
$\sigma(D^{*+} \to [K^-\pi^+]_{D^0}\pi^+)/\sigma(D^+ \to K^-\pi^+\pi^+)$	$0.270^{+\ 0.002+\ 0.023}_{-\ 0.002-\ 0.022}$
$\sigma(D_s^+ \to [K^-K^+]_\phi\pi^+)/\sigma(D^{*+} \to [K^-\pi^+]_{D^0}\pi^+)$	$0.390^{+\ 0.010+\ 0.038}_{-\ 0.010-\ 0.045}$

Table 4. Ratios of integrated cross-section-times-branching-fraction measurements in the kinematic range $1 < p_T < 8$ GeV/c and $2 < y < 4.5$. The first uncertainty on the ratio is statistical and the second is systematic. The notation $\sigma(D \to f)$ is shorthand for $\sigma(D) \times \mathcal{B}(D \to f)$.

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$p_{\rm T}$ [MeV/c]	y				
	$[2, 2.5]$	$[2.5, 3]$	$[3, 3.5]$	$[3.5, 4]$	$[4, 4.5]$
$[0, 1000]$	$254\,^{+\ 2\ +\ 31}_{-\ 2\ -\ 27}$	$277.3\,^{+\ 1.0\ +\ 21.4}_{-\ 1.0\ -\ 24.8}$	$281.1\,^{+\ 0.9\ +\ 19.4}_{-\ 0.9\ -\ 17.4}$	$256\,^{+\ 1\ +\ 16}_{-\ 1\ -\ 14}$	$206\,^{+\ 2\ +\ 16}_{-\ 2\ -\ 14}$
$[1000, 1500]$	$433\,^{+\ 3\ +\ 50}_{-\ 3\ -\ 45}$	$457\,^{+\ 2\ +\ 32}_{-\ 2\ -\ 37}$	$454\,^{+\ 1\ +\ 28}_{-\ 1\ -\ 27}$	$409\,^{+\ 2\ +\ 25}_{-\ 2\ -\ 23}$	$337\,^{+\ 3\ +\ 25}_{-\ 3\ -\ 22}$
$[1500, 2000]$	$388\,^{+\ 2\ +\ 40}_{-\ 2\ -\ 37}$	$409\,^{+\ 1\ +\ 30}_{-\ 1\ -\ 26}$	$380\,^{+\ 1\ +\ 23}_{-\ 1\ -\ 22}$	$344\,^{+\ 1\ +\ 21}_{-\ 1\ -\ 19}$	$265\,^{+\ 2\ +\ 18}_{-\ 2\ -\ 17}$
$[2000, 2500]$	$296\,^{+\ 2\ +\ 24}_{-\ 2\ -\ 28}$	$314.4\,^{+\ 1.0\ +\ 21.1}_{-\ 1.0\ -\ 18.7}$	$292.5\,^{+\ 0.9\ +\ 17.4}_{-\ 0.9\ -\ 15.8}$	$259\,^{+\ 1\ +\ 16}_{-\ 1\ -\ 14}$	$190\,^{+\ 2\ +\ 11}_{-\ 2\ -\ 12}$
$[2500, 3000]$	$228\,^{+\ 1\ +\ 17}_{-\ 1\ -\ 20}$	$228.9\,^{+\ 0.7\ +\ 14.7}_{-\ 0.7\ -\ 13.2}$	$208.8\,^{+\ 0.7\ +\ 12.6}_{-\ 0.7\ -\ 10.4}$	$175.0\,^{+\ 0.8\ +\ 11.3}_{-\ 0.8\ -\ 9.5}$	$129.6\,^{+\ 1.2\ +\ 8.3}_{-\ 1.2\ -\ 8.9}$
$[3000, 3500]$	$161.3\,^{+\ 0.9\ +\ 11.4}_{-\ 0.9\ -\ 13.0}$	$156.1\,^{+\ 0.5\ +\ 9.6}_{-\ 0.5\ -\ 8.7}$	$137.3\,^{+\ 0.5\ +\ 8.1}_{-\ 0.5\ -\ 6.9}$	$121.4\,^{+\ 0.6\ +\ 8.5}_{-\ 0.6\ -\ 6.9}$	$85.6\,^{+\ 0.9\ +\ 6.3}_{-\ 0.9\ -\ 6.4}$
$[3500, 4000]$	$109.7\,^{+\ 0.6\ +\ 7.3}_{-\ 0.6\ -\ 8.2}$	$111.0\,^{+\ 0.4\ +\ 6.6}_{-\ 0.4\ -\ 6.0}$	$93.5\,^{+\ 0.4\ +\ 5.5}_{-\ 0.4\ -\ 4.7}$	$82.7\,^{+\ 0.4\ +\ 5.5}_{-\ 0.4\ -\ 4.9}$	$58.0\,^{+\ 0.8\ +\ 5.9}_{-\ 0.8\ -\ 5.5}$
$[4000, 5000]$	$66.5\,^{+\ 0.3\ +\ 4.7}_{-\ 0.3\ -\ 4.2}$	$64.5\,^{+\ 0.2\ +\ 3.9}_{-\ 0.2\ -\ 3.3}$	$54.5\,^{+\ 0.2\ +\ 3.2}_{-\ 0.2\ -\ 2.7}$	$45.9\,^{+\ 0.2\ +\ 2.5}_{-\ 0.2\ -\ 2.7}$	$26.1\,^{+\ 0.4\ +\ 3.6}_{-\ 0.4\ -\ 3.0}$
$[5000, 6000]$	$35.5\,^{+\ 0.2\ +\ 2.6}_{-\ 0.2\ -\ 2.1}$	$31.5\,^{+\ 0.1\ +\ 1.8}_{-\ 0.1\ -\ 1.6}$	$27.1\,^{+\ 0.1\ +\ 1.5}_{-\ 0.1\ -\ 1.6}$	$20.8\,^{+\ 0.1\ +\ 1.3}_{-\ 0.1\ -\ 1.2}$	$10.9\,^{+\ 0.4\ +\ 2.5}_{-\ 0.4\ -\ 1.8}$
$[6000, 7000]$	$18.5\,^{+\ 0.1\ +\ 1.3}_{-\ 0.1\ -\ 1.2}$	$17.20\,^{+\ 0.09\ +\ 0.96}_{-\ 0.09\ -\ 0.92}$	$14.40\,^{+\ 0.09\ +\ 0.82}_{-\ 0.09\ -\ 0.85}$	$10.20\,^{+\ 0.12\ +\ 0.87}_{-\ 0.12\ -\ 0.81}$	$3.4\,^{+\ 0.5\ +\ 2.4}_{-\ 0.5\ -\ 1.3}$
$[7000, 8000]$	$10.15\,^{+\ 0.09\ +\ 0.72}_{-\ 0.09\ -\ 0.63}$	$9.71\,^{+\ 0.07\ +\ 0.60}_{-\ 0.07\ -\ 0.52}$	$7.88\,^{+\ 0.07\ +\ 0.42}_{-\ 0.07\ -\ 0.48}$	$4.94\,^{+\ 0.10\ +\ 0.71}_{-\ 0.10\ -\ 0.58}$	
$[8000, 9000]$	$6.11\,^{+\ 0.07\ +\ 0.46}_{-\ 0.07\ -\ 0.39}$	$5.72\,^{+\ 0.05\ +\ 0.38}_{-\ 0.05\ -\ 0.32}$	$4.49\,^{+\ 0.05\ +\ 0.27}_{-\ 0.05\ -\ 0.29}$	$2.88\,^{+\ 0.11\ +\ 0.57}_{-\ 0.11\ -\ 0.44}$	
$[9000, 10000]$	$3.92\,^{+\ 0.06\ +\ 0.26}_{-\ 0.06\ -\ 0.22}$	$3.48\,^{+\ 0.04\ +\ 0.21}_{-\ 0.04\ -\ 0.15}$	$2.75\,^{+\ 0.04\ +\ 0.16}_{-\ 0.04\ -\ 0.13}$	$1.53\,^{+\ 0.11\ +\ 0.49}_{-\ 0.11\ -\ 0.28}$	
$[10000, 11000]$	$2.48\,^{+\ 0.05\ +\ 0.18}_{-\ 0.05\ -\ 0.16}$	$2.18\,^{+\ 0.03\ +\ 0.14}_{-\ 0.03\ -\ 0.09}$	$1.62\,^{+\ 0.04\ +\ 0.12}_{-\ 0.04\ -\ 0.09}$	$0.77\,^{+\ 0.13\ +\ 0.33}_{-\ 0.13\ -\ 0.16}$	
$[11000, 12000]$	$1.59\,^{+\ 0.04\ +\ 0.14}_{-\ 0.04\ -\ 0.10}$	$1.49\,^{+\ 0.03\ +\ 0.10}_{-\ 0.03\ -\ 0.06}$	$1.025\,^{+\ 0.034\ +\ 0.083}_{-\ 0.034\ -\ 0.056}$		
$[12000, 13000]$	$1.01\,^{+\ 0.03\ +\ 0.12}_{-\ 0.03\ -\ 0.08}$	$1.031\,^{+\ 0.026\ +\ 0.078}_{-\ 0.026\ -\ 0.037}$	$0.716\,^{+\ 0.034\ +\ 0.060}_{-\ 0.034\ -\ 0.048}$		
$[13000, 14000]$	$0.746\,^{+\ 0.026\ +\ 0.089}_{-\ 0.026\ -\ 0.055}$	$0.718\,^{+\ 0.023\ +\ 0.060}_{-\ 0.023\ -\ 0.025}$	$0.447\,^{+\ 0.031\ +\ 0.075}_{-\ 0.031\ -\ 0.045}$		
$[14000, 15000]$	$0.498\,^{+\ 0.022\ +\ 0.058}_{-\ 0.022\ -\ 0.030}$	$0.495\,^{+\ 0.020\ +\ 0.048}_{-\ 0.020\ -\ 0.022}$	$0.268\,^{+\ 0.031\ +\ 0.053}_{-\ 0.031\ -\ 0.031}$		

Table 5. Differential production cross-sections, $\mathrm{d}^2\sigma/(\mathrm{d}p_{\rm T}\,\mathrm{d}y)$, in μb/(GeV/c) for prompt $D^0 + \overline{D}^0$ mesons in bins of $(p_{\rm T}, y)$. The first uncertainty is statistical, and the second is the total systematic.

$p_{\rm T}$ [MeV/c]	y				
	$[2, 2.5]$	$[2.5, 3]$	$[3, 3.5]$	$[3.5, 4]$	$[4, 4.5]$
$[0, 1000]$		$156 \,^{+\,6\,+\,38}_{-\,6\,-\,32}$	$107 \,^{+\,3\,+\,15}_{-\,3\,-\,14}$	$97 \,^{+\,3\,+\,13}_{-\,3\,-\,13}$	$72 \,^{+\,5\,+\,16}_{-\,5\,-\,14}$
$[1000, 1500]$	$182 \,^{+\,7\,+\,47}_{-\,7\,-\,42}$	$170 \,^{+\,2\,+\,31}_{-\,2\,-\,22}$	$184 \,^{+\,1\,+\,19}_{-\,1\,-\,18}$	$158 \,^{+\,2\,+\,15}_{-\,2\,-\,14}$	$137 \,^{+\,3\,+\,16}_{-\,3\,-\,15}$
$[1500, 2000]$	$146 \,^{+\,2\,+\,27}_{-\,2\,-\,23}$	$149.5 \,^{+\,0.8\,+\,23.0}_{-\,0.8\,-\,16.6}$	$153.5 \,^{+\,0.7\,+\,13.7}_{-\,0.7\,-\,14.2}$	$133.6 \,^{+\,0.7\,+\,11.4}_{-\,0.7\,-\,10.4}$	$107.1 \,^{+\,1.2\,+\,9.6}_{-\,1.2\,-\,9.1}$
$[2000, 2500]$	$111 \,^{+\,1\,+\,18}_{-\,1\,-\,16}$	$126.1 \,^{+\,0.5\,+\,16.4}_{-\,0.5\,-\,12.9}$	$115.4 \,^{+\,0.4\,+\,9.5}_{-\,0.4\,-\,9.7}$	$97.4 \,^{+\,0.4\,+\,7.8}_{-\,0.4\,-\,7.2}$	$78.9 \,^{+\,0.7\,+\,6.3}_{-\,0.7\,-\,6.1}$
$[2500, 3000]$	$86.1 \,^{+\,0.7\,+\,13.1}_{-\,0.7\,-\,12.3}$	$94.0 \,^{+\,0.3\,+\,8.8}_{-\,0.3\,-\,10.0}$	$83.5 \,^{+\,0.3\,+\,6.5}_{-\,0.3\,-\,6.5}$	$72.1 \,^{+\,0.3\,+\,5.4}_{-\,0.3\,-\,5.1}$	$53.2 \,^{+\,0.4\,+\,4.4}_{-\,0.4\,-\,4.0}$
$[3000, 3500]$	$62.3 \,^{+\,0.5\,+\,8.8}_{-\,0.5\,-\,8.6}$	$66.7 \,^{+\,0.2\,+\,6.0}_{-\,0.2\,-\,6.6}$	$59.3 \,^{+\,0.2\,+\,4.6}_{-\,0.2\,-\,4.3}$	$49.7 \,^{+\,0.2\,+\,3.8}_{-\,0.2\,-\,3.4}$	$35.0 \,^{+\,0.3\,+\,2.7}_{-\,0.3\,-\,2.7}$
$[3500, 4000]$	$42.4 \,^{+\,0.3\,+\,5.5}_{-\,0.3\,-\,5.6}$	$46.4 \,^{+\,0.2\,+\,4.2}_{-\,0.2\,-\,4.2}$	$42.0 \,^{+\,0.2\,+\,3.3}_{-\,0.2\,-\,2.9}$	$33.3 \,^{+\,0.2\,+\,2.7}_{-\,0.2\,-\,2.2}$	$22.6 \,^{+\,0.2\,+\,1.7}_{-\,0.2\,-\,1.8}$
$[4000, 5000]$	$29.2 \,^{+\,0.2\,+\,3.2}_{-\,0.2\,-\,3.7}$	$28.22 \,^{+\,0.09\,+\,2.35}_{-\,0.09\,-\,2.34}$	$23.36 \,^{+\,0.08\,+\,1.83}_{-\,0.08\,-\,1.48}$	$19.29 \,^{+\,0.08\,+\,1.51}_{-\,0.08\,-\,1.26}$	$13.9 \,^{+\,0.1\,+\,0.9}_{-\,0.1\,-\,1.1}$
$[5000, 6000]$	$15.1 \,^{+\,0.1\,+\,1.5}_{-\,0.1\,-\,1.7}$	$14.49 \,^{+\,0.06\,+\,1.18}_{-\,0.06\,-\,1.10}$	$12.18 \,^{+\,0.05\,+\,0.94}_{-\,0.05\,-\,0.78}$	$9.44 \,^{+\,0.05\,+\,0.71}_{-\,0.05\,-\,0.63}$	$6.87 \,^{+\,0.11\,+\,0.60}_{-\,0.11\,-\,0.64}$
$[6000, 7000]$	$8.34 \,^{+\,0.07\,+\,0.76}_{-\,0.07\,-\,0.84}$	$7.39 \,^{+\,0.04\,+\,0.59}_{-\,0.04\,-\,0.54}$	$6.30 \,^{+\,0.04\,+\,0.49}_{-\,0.04\,-\,0.40}$	$4.89 \,^{+\,0.04\,+\,0.32}_{-\,0.04\,-\,0.37}$	$3.03 \,^{+\,0.09\,+\,0.32}_{-\,0.09\,-\,0.30}$
$[7000, 8000]$	$4.98 \,^{+\,0.05\,+\,0.47}_{-\,0.05\,-\,0.46}$	$4.24 \,^{+\,0.03\,+\,0.33}_{-\,0.03\,-\,0.31}$	$3.51 \,^{+\,0.03\,+\,0.28}_{-\,0.03\,-\,0.23}$	$2.56 \,^{+\,0.03\,+\,0.18}_{-\,0.03\,-\,0.21}$	$2.31 \,^{+\,0.13\,+\,0.53}_{-\,0.13\,-\,0.47}$
$[8000, 9000]$	$3.11 \,^{+\,0.04\,+\,0.31}_{-\,0.04\,-\,0.25}$	$2.63 \,^{+\,0.02\,+\,0.21}_{-\,0.02\,-\,0.19}$	$2.16 \,^{+\,0.02\,+\,0.17}_{-\,0.02\,-\,0.14}$	$1.40 \,^{+\,0.02\,+\,0.12}_{-\,0.02\,-\,0.13}$	$1.17 \,^{+\,0.09\,+\,0.46}_{-\,0.09\,-\,0.47}$
$[9000, 10000]$	$1.46 \,^{+\,0.02\,+\,0.13}_{-\,0.02\,-\,0.11}$	$1.35 \,^{+\,0.01\,+\,0.11}_{-\,0.01\,-\,0.09}$	$1.192 \,^{+\,0.015\,+\,0.083}_{-\,0.015\,-\,0.083}$	$0.928 \,^{+\,0.025\,+\,0.096}_{-\,0.025\,-\,0.087}$	
$[10000, 11000]$	$1.144 \,^{+\,0.020\,+\,0.098}_{-\,0.020\,-\,0.081}$	$0.970 \,^{+\,0.013\,+\,0.072}_{-\,0.013\,-\,0.061}$	$0.784 \,^{+\,0.013\,+\,0.050}_{-\,0.013\,-\,0.052}$	$0.477 \,^{+\,0.020\,+\,0.057}_{-\,0.020\,-\,0.044}$	
$[11000, 12000]$	$0.774 \,^{+\,0.016\,+\,0.070}_{-\,0.016\,-\,0.054}$	$0.641 \,^{+\,0.011\,+\,0.050}_{-\,0.011\,-\,0.037}$	$0.520 \,^{+\,0.011\,+\,0.035}_{-\,0.011\,-\,0.034}$	$0.301 \,^{+\,0.017\,+\,0.031}_{-\,0.017\,-\,0.021}$	
$[12000, 13000]$	$0.513 \,^{+\,0.012\,+\,0.049}_{-\,0.012\,-\,0.033}$	$0.443 \,^{+\,0.009\,+\,0.036}_{-\,0.009\,-\,0.025}$	$0.336 \,^{+\,0.009\,+\,0.024}_{-\,0.009\,-\,0.021}$	$0.185 \,^{+\,0.011\,+\,0.034}_{-\,0.011\,-\,0.021}$	
$[13000, 14000]$	$0.362 \,^{+\,0.010\,+\,0.037}_{-\,0.010\,-\,0.023}$	$0.298 \,^{+\,0.007\,+\,0.028}_{-\,0.007\,-\,0.015}$	$0.238 \,^{+\,0.008\,+\,0.019}_{-\,0.008\,-\,0.014}$	$0.096 \,^{+\,0.009\,+\,0.015}_{-\,0.009\,-\,0.006}$	
$[14000, 15000]$	$0.250 \,^{+\,0.008\,+\,0.028}_{-\,0.008\,-\,0.014}$	$0.212 \,^{+\,0.006\,+\,0.022}_{-\,0.006\,-\,0.009}$	$0.162 \,^{+\,0.007\,+\,0.017}_{-\,0.007\,-\,0.007}$		

Table 6. Differential production cross-sections, $\mathrm{d}^2\sigma/(\mathrm{d}p_{\rm T}\,\mathrm{d}y)$, in µb/(GeV/c) for prompt $D^+ + D^-$ mesons in bins of $(p_{\rm T}, y)$. The first uncertainty is statistical, and the second is the total systematic.

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p_{T} [MeV/c]	y [2, 2.5]	y [2.5, 3]	y [3, 3.5]	y [3.5, 4]	y [4, 4.5]
[1000, 1500]	$31 \,^{+\ 8\ +\ 15}_{-\ 8\ -\ 13}$	$60 \,^{+\ 4\ +\ 21}_{-\ 4\ -\ 13}$	$70 \,^{+\ 4\ +\ 13}_{-\ 4\ -\ 13}$	$55 \,^{+\ 5\ +\ 14}_{-\ 5\ -\ 11}$	$110 \,^{+\ 36\ +\ 34}_{-\ 36\ -\ 72}$
[1500, 2000]	$47 \,^{+\ 3\ +\ 13}_{-\ 3\ -\ 10}$	$63 \,^{+\ 2\ +\ 14}_{-\ 2\ -\ 10}$	$62.1 \,^{+\ 1.6\ +\ 7.5}_{-\ 1.6\ -\ 7.2}$	$61.2 \,^{+\ 2.2\ +\ 8.5}_{-\ 2.2\ -\ 7.2}$	$29.8 \,^{+\ 3.1\ +\ 5.9}_{-\ 3.1\ -\ 5.5}$
[2000, 2500]	$48 \,^{+\ 2\ +\ 11}_{-\ 2\ -\ 9}$	$52.2 \,^{+\ 0.9\ +\ 8.4}_{-\ 0.9\ -\ 5.8}$	$56.1 \,^{+\ 0.9\ +\ 6.2}_{-\ 0.9\ -\ 5.6}$	$47.1 \,^{+\ 1.1\ +\ 5.3}_{-\ 1.1\ -\ 4.7}$	$26.9 \,^{+\ 1.8\ +\ 4.2}_{-\ 1.8\ -\ 3.7}$
[2500, 3000]	$38.2 \,^{+\ 1.1\ +\ 7.8}_{-\ 1.1\ -\ 6.5}$	$44.1 \,^{+\ 0.6\ +\ 4.9}_{-\ 0.6\ -\ 5.5}$	$38.3 \,^{+\ 0.5\ +\ 4.2}_{-\ 0.5\ -\ 3.3}$	$33.9 \,^{+\ 0.7\ +\ 3.5}_{-\ 0.7\ -\ 3.2}$	$23.7 \,^{+\ 1.1\ +\ 3.2}_{-\ 1.1\ -\ 3.1}$
[3000, 3500]	$27.1 \,^{+\ 0.7\ +\ 4.9}_{-\ 0.7\ -\ 4.2}$	$30.1 \,^{+\ 0.4\ +\ 3.2}_{-\ 0.4\ -\ 3.4}$	$27.0 \,^{+\ 0.4\ +\ 2.9}_{-\ 0.4\ -\ 2.3}$	$22.4 \,^{+\ 0.4\ +\ 2.3}_{-\ 0.4\ -\ 2.1}$	$13.9 \,^{+\ 0.7\ +\ 1.7}_{-\ 0.7\ -\ 1.6}$
[3500, 4000]	$21.2 \,^{+\ 0.5\ +\ 3.6}_{-\ 0.5\ -\ 3.0}$	$20.9 \,^{+\ 0.3\ +\ 2.2}_{-\ 0.3\ -\ 2.2}$	$19.0 \,^{+\ 0.3\ +\ 2.0}_{-\ 0.3\ -\ 1.6}$	$16.6 \,^{+\ 0.3\ +\ 1.7}_{-\ 0.3\ -\ 1.5}$	$10.7 \,^{+\ 0.6\ +\ 1.5}_{-\ 0.6\ -\ 1.3}$
[4000, 5000]	$12.4 \,^{+\ 0.2\ +\ 1.8}_{-\ 0.2\ -\ 1.6}$	$13.4 \,^{+\ 0.2\ +\ 1.4}_{-\ 0.2\ -\ 1.3}$	$10.7 \,^{+\ 0.1\ +\ 1.1}_{-\ 0.1\ -\ 0.9}$	$9.60 \,^{+\ 0.17\ +\ 0.93}_{-\ 0.17\ -\ 0.87}$	$6.36 \,^{+\ 0.28\ +\ 0.78}_{-\ 0.28\ -\ 0.61}$
[5000, 6000]	$7.7 \,^{+\ 0.2\ +\ 0.9}_{-\ 0.2\ -\ 1.0}$	$7.11 \,^{+\ 0.11\ +\ 0.79}_{-\ 0.11\ -\ 0.59}$	$5.89 \,^{+\ 0.10\ +\ 0.58}_{-\ 0.10\ -\ 0.49}$	$4.62 \,^{+\ 0.10\ +\ 0.54}_{-\ 0.10\ -\ 0.41}$	$3.10 \,^{+\ 0.20\ +\ 0.45}_{-\ 0.20\ -\ 0.40}$
[6000, 7000]	$3.83 \,^{+\ 0.10\ +\ 0.44}_{-\ 0.10\ -\ 0.46}$	$3.85 \,^{+\ 0.08\ +\ 0.41}_{-\ 0.08\ -\ 0.34}$	$3.03 \,^{+\ 0.07\ +\ 0.31}_{-\ 0.07\ -\ 0.27}$	$2.10 \,^{+\ 0.07\ +\ 0.25}_{-\ 0.07\ -\ 0.20}$	$1.39 \,^{+\ 0.16\ +\ 0.25}_{-\ 0.16\ -\ 0.21}$
[7000, 8000]	$2.43 \,^{+\ 0.08\ +\ 0.32}_{-\ 0.08\ -\ 0.26}$	$1.79 \,^{+\ 0.05\ +\ 0.18}_{-\ 0.05\ -\ 0.17}$	$1.60 \,^{+\ 0.05\ +\ 0.18}_{-\ 0.05\ -\ 0.14}$	$1.33 \,^{+\ 0.06\ +\ 0.18}_{-\ 0.06\ -\ 0.14}$	$0.68 \,^{+\ 0.18\ +\ 0.18}_{-\ 0.18\ -\ 0.18}$
[8000, 9000]	$1.33 \,^{+\ 0.05\ +\ 0.17}_{-\ 0.05\ -\ 0.14}$	$1.19 \,^{+\ 0.04\ +\ 0.13}_{-\ 0.04\ -\ 0.12}$	$1.22 \,^{+\ 0.04\ +\ 0.16}_{-\ 0.04\ -\ 0.12}$	$0.72 \,^{+\ 0.05\ +\ 0.10}_{-\ 0.05\ -\ 0.09}$	
[9000, 10000]	$0.754 \,^{+\ 0.036\ +\ 0.097}_{-\ 0.036\ -\ 0.067}$	$0.639 \,^{+\ 0.026\ +\ 0.069}_{-\ 0.026\ -\ 0.054}$	$0.588 \,^{+\ 0.027\ +\ 0.066}_{-\ 0.027\ -\ 0.050}$	$0.433 \,^{+\ 0.041\ +\ 0.053}_{-\ 0.041\ -\ 0.044}$	
[10000, 11000]	$0.553 \,^{+\ 0.032\ +\ 0.063}_{-\ 0.032\ -\ 0.037}$	$0.450 \,^{+\ 0.023\ +\ 0.045}_{-\ 0.023\ -\ 0.031}$	$0.346 \,^{+\ 0.022\ +\ 0.043}_{-\ 0.022\ -\ 0.023}$	$0.192 \,^{+\ 0.033\ +\ 0.025}_{-\ 0.033\ -\ 0.010}$	
[11000, 12000]	$0.331 \,^{+\ 0.025\ +\ 0.038}_{-\ 0.025\ -\ 0.023}$	$0.289 \,^{+\ 0.018\ +\ 0.031}_{-\ 0.018\ -\ 0.017}$	$0.240 \,^{+\ 0.018\ +\ 0.028}_{-\ 0.018\ -\ 0.012}$		
[12000, 13000]	$0.247 \,^{+\ 0.020\ +\ 0.030}_{-\ 0.020\ -\ 0.016}$	$0.164 \,^{+\ 0.014\ +\ 0.020}_{-\ 0.014\ -\ 0.008}$	$0.169 \,^{+\ 0.016\ +\ 0.022}_{-\ 0.016\ -\ 0.006}$		
[13000, 14000]	$0.137 \,^{+\ 0.016\ +\ 0.019}_{-\ 0.016\ -\ 0.009}$	$0.159 \,^{+\ 0.014\ +\ 0.022}_{-\ 0.014\ -\ 0.006}$	$0.1090 \,^{+\ 0.0146\ +\ 0.0212}_{-\ 0.0146\ -\ 0.0010}$		
[14000, 15000]					

Table 7. Differential production cross-sections, $\mathrm{d}^2\sigma/(\mathrm{d}p_{\mathrm{T}}\,\mathrm{d}y)$, in µb/(GeV/c) for prompt $D_s^+ + D_s^-$ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic.

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p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]					$67 \pm 9 \pm 9 \pm 20 \pm 19$
[1000, 1500]		$124 \pm 5 \pm 5 \pm 16 \pm 17$	$152 \pm 2 \pm 2 \pm 13 \pm 15$	$123 \pm 2 \pm 2 \pm 12 \pm 12$	$127 \pm 4 \pm 4 \pm 20 \pm 16$
[1500, 2000]		$159 \pm 3 \pm 3 \pm 18 \pm 16$	$148 \pm 1 \pm 1 \pm 12 \pm 14$	$125 \pm 1 \pm 1 \pm 11 \pm 12$	$100 \pm 2 \pm 2 \pm 11 \pm 9$
[2000, 2500]	$117 \pm 11 \pm 11 \pm 27 \pm 29$	$123 \pm 1 \pm 1 \pm 15 \pm 10$	$118.2 \pm 0.8 \pm 0.8 \pm 9.4 \pm 11.1$	$98.4 \pm 0.8 \pm 0.8 \pm 9.2 \pm 8.2$	$71.3 \pm 1.3 \pm 1.3 \pm 8.1 \pm 7.1$
[2500, 3000]	$90 \pm 3 \pm 3 \pm 13 \pm 14$	$91.7 \pm 0.8 \pm 0.8 \pm 8.3 \pm 9.3$	$83.2 \pm 0.5 \pm 0.5 \pm 7.6 \pm 6.7$	$67.3 \pm 0.6 \pm 0.6 \pm 6.3 \pm 5.6$	$50.9 \pm 1.0 \pm 1.0 \pm 4.4 \pm 4.8$
[3000, 3500]	$64.8 \pm 1.6 \pm 1.6 \pm 7.7 \pm 9.0$	$65.2 \pm 0.5 \pm 0.5 \pm 5.6 \pm 6.6$	$57.9 \pm 0.4 \pm 0.4 \pm 5.4 \pm 4.3$	$45.7 \pm 0.4 \pm 0.4 \pm 4.3 \pm 3.7$	$32.8 \pm 0.7 \pm 0.7 \pm 4.2 \pm 3.7$
[3500, 4000]	$46.8 \pm 1.0 \pm 1.0 \pm 5.3 \pm 6.1$	$48.9 \pm 0.4 \pm 0.4 \pm 4.2 \pm 4.9$	$39.9 \pm 0.3 \pm 0.3 \pm 3.7 \pm 2.9$	$33.2 \pm 0.3 \pm 0.3 \pm 3.1 \pm 2.7$	$23.9 \pm 0.6 \pm 0.6 \pm 2.1 \pm 2.1$
[4000, 5000]	$28.2 \pm 0.4 \pm 0.4 \pm 2.8 \pm 3.3$	$27.8 \pm 0.2 \pm 0.2 \pm 2.3 \pm 2.7$	$22.9 \pm 0.1 \pm 0.1 \pm 2.0 \pm 1.6$	$19.1 \pm 0.2 \pm 0.2 \pm 1.8 \pm 1.6$	$11.7 \pm 0.3 \pm 0.3 \pm 1.5 \pm 1.3$
[5000, 6000]	$14.3 \pm 0.2 \pm 0.2 \pm 1.4 \pm 1.6$	$13.7 \pm 0.1 \pm 0.1 \pm 1.1 \pm 1.3$	$11.96 \pm 0.09 \pm 0.09 \pm 1.02 \pm 0.88$	$9.91 \pm 0.12 \pm 0.12 \pm 0.95 \pm 0.67$	$5.1 \pm 0.3 \pm 0.3 \pm 1.0 \pm 0.8$
[6000, 7000]	$8.45 \pm 0.14 \pm 0.14 \pm 0.79 \pm 0.94$	$7.83 \pm 0.07 \pm 0.07 \pm 0.64 \pm 0.73$	$6.33 \pm 0.06 \pm 0.06 \pm 0.50 \pm 0.49$	$4.44 \pm 0.08 \pm 0.08 \pm 0.35 \pm 0.35$	$1.93 \pm 0.32 \pm 0.32 \pm 0.40 \pm 0.36$
[7000, 8000]	$4.96 \pm 0.09 \pm 0.09 \pm 0.46 \pm 0.54$	$4.25 \pm 0.05 \pm 0.05 \pm 0.37 \pm 0.41$	$3.70 \pm 0.05 \pm 0.05 \pm 0.32 \pm 0.27$	$2.68 \pm 0.07 \pm 0.07 \pm 0.30 \pm 0.27$	
[8000, 9000]	$2.91 \pm 0.06 \pm 0.06 \pm 0.28 \pm 0.32$	$2.53 \pm 0.04 \pm 0.04 \pm 0.22 \pm 0.23$	$2.08 \pm 0.04 \pm 0.04 \pm 0.21 \pm 0.15$	$1.19 \pm 0.06 \pm 0.06 \pm 0.21 \pm 0.15$	
[9000, 10000]	$1.26 \pm 0.03 \pm 0.03 \pm 0.12 \pm 0.13$	$1.59 \pm 0.03 \pm 0.03 \pm 0.14 \pm 0.14$	$1.23 \pm 0.03 \pm 0.03 \pm 0.10 \pm 0.09$	$0.92 \pm 0.08 \pm 0.08 \pm 0.15 \pm 0.12$	
[10000, 11000]	$1.17 \pm 0.04 \pm 0.04 \pm 0.10 \pm 0.11$	$1.034 \pm 0.025 \pm 0.025 \pm 0.089 \pm 0.083$	$0.830 \pm 0.025 \pm 0.025 \pm 0.066 \pm 0.048$	$0.382 \pm 0.067 \pm 0.067 \pm 0.079 \pm 0.067$	
[11000, 12000]	$0.721 \pm 0.027 \pm 0.027 \pm 0.065 \pm 0.069$	$0.661 \pm 0.020 \pm 0.020 \pm 0.061 \pm 0.052$	$0.472 \pm 0.021 \pm 0.021 \pm 0.046 \pm 0.033$		
[12000, 13000]	$0.494 \pm 0.023 \pm 0.023 \pm 0.048 \pm 0.047$	$0.491 \pm 0.017 \pm 0.017 \pm 0.047 \pm 0.036$	$0.347 \pm 0.021 \pm 0.021 \pm 0.030 \pm 0.022$		
[13000, 14000]	$0.374 \pm 0.020 \pm 0.020 \pm 0.043 \pm 0.037$	$0.292 \pm 0.014 \pm 0.014 \pm 0.031 \pm 0.021$	$0.272 \pm 0.022 \pm 0.022 \pm 0.033 \pm 0.020$		
[14000, 15000]	$0.218 \pm 0.015 \pm 0.015 \pm 0.034 \pm 0.024$	$0.248 \pm 0.014 \pm 0.014 \pm 0.026 \pm 0.016$	$0.110 \pm 0.016 \pm 0.016 \pm 0.023 \pm 0.017$		

Table 8. Differential production cross-sections, $\mathrm{d}^2\sigma/(\mathrm{d}p_{\mathrm{T}}\,\mathrm{d}y)$, in µb/(GeV/c) for prompt $D^{*+}+D^{*-}$ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic.

p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]	$1.12\,^{+\,0.06\,+\,0.19}_{-\,0.05\,-\,0.15}$	$1.44\,^{+\,0.05\,+\,0.18}_{-\,0.05\,-\,0.17}$	$1.54\,^{+\,0.07\,+\,0.18}_{-\,0.06\,-\,0.14}$	$1.59\,^{+\,0.09\,+\,0.18}_{-\,0.08\,-\,0.14}$	$1.80\,^{+\,0.19\,+\,0.24}_{-\,0.15\,-\,0.18}$
[1000, 2000]	$1.40\,^{+\,0.06\,+\,0.21}_{-\,0.05\,-\,0.17}$	$1.48\,^{+\,0.04\,+\,0.17}_{-\,0.04\,-\,0.15}$	$1.61\,^{+\,0.05\,+\,0.17}_{-\,0.05\,-\,0.15}$	$1.67\,^{+\,0.07\,+\,0.18}_{-\,0.06\,-\,0.15}$	$1.85\,^{+\,0.13\,+\,0.22}_{-\,0.11\,-\,0.17}$
[2000, 3000]	$1.53\,^{+\,0.06\,+\,0.18}_{-\,0.05\,-\,0.18}$	$1.65\,^{+\,0.04\,+\,0.19}_{-\,0.04\,-\,0.15}$	$1.83\,^{+\,0.05\,+\,0.20}_{-\,0.05\,-\,0.16}$	$1.86\,^{+\,0.07\,+\,0.21}_{-\,0.06\,-\,0.16}$	$2.00\,^{+\,0.14\,+\,0.25}_{-\,0.12\,-\,0.20}$
[3000, 4000]	$1.62\,^{+\,0.07\,+\,0.20}_{-\,0.07\,-\,0.18}$	$1.92\,^{+\,0.06\,+\,0.21}_{-\,0.06\,-\,0.17}$	$1.84\,^{+\,0.06\,+\,0.20}_{-\,0.06\,-\,0.16}$	$2.25\,^{+\,0.10\,+\,0.29}_{-\,0.10\,-\,0.22}$	$2.32\,^{+\,0.21\,+\,0.35}_{-\,0.18\,-\,0.26}$
[4000, 5000]	$1.79\,^{+\,0.10\,+\,0.24}_{-\,0.09\,-\,0.18}$	$2.00\,^{+\,0.09\,+\,0.25}_{-\,0.08\,-\,0.19}$	$1.90\,^{+\,0.09\,+\,0.21}_{-\,0.08\,-\,0.16}$	$2.32\,^{+\,0.16\,+\,0.28}_{-\,0.14\,-\,0.23}$	$2.30\,^{+\,0.41\,+\,0.51}_{-\,0.31\,-\,0.31}$
[5000, 6000]	$1.90\,^{+\,0.14\,+\,0.26}_{-\,0.13\,-\,0.19}$	$1.78\,^{+\,0.10\,+\,0.23}_{-\,0.09\,-\,0.17}$	$2.18\,^{+\,0.15\,+\,0.28}_{-\,0.14\,-\,0.22}$	$2.14\,^{+\,0.21\,+\,0.29}_{-\,0.17\,-\,0.20}$	$1.69\,^{+\,0.73\,+\,0.72}_{-\,0.40\,-\,0.29}$
[6000, 7000]	$1.88\,^{+\,0.22\,+\,0.27}_{-\,0.18\,-\,0.18}$	$2.00\,^{+\,0.19\,+\,0.27}_{-\,0.16\,-\,0.20}$	$2.41\,^{+\,0.30\,+\,0.32}_{-\,0.24\,-\,0.25}$	$2.19\,^{+\,0.38\,+\,0.37}_{-\,0.28\,-\,0.25}$	
[7000, 8000]	$2.17\,^{+\,0.48\,+\,0.39}_{-\,0.33\,-\,0.22}$	$2.01\,^{+\,0.36\,+\,0.32}_{-\,0.26\,-\,0.19}$	$3.15\,^{+\,0.87\,+\,0.51}_{-\,0.56\,-\,0.33}$	$2.16\,^{+\,0.95\,+\,0.67}_{-\,0.51\,-\,0.30}$	

Table 9. The ratios of differential production cross-sections, $R_{13/7}$, for prompt $D^0 + \overline{D}^0$ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic.

p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]		$1.85 \,^{+\,0.16\,+\,0.66}_{-\,0.14\,-\,0.43}$	$1.57 \,^{+\,0.10\,+\,0.46}_{-\,0.09\,-\,0.31}$	$1.66 \,^{+\,0.13\,+\,0.48}_{-\,0.11\,-\,0.33}$	$1.50 \,^{+\,0.23\,+\,0.62}_{-\,0.19\,-\,0.38}$
[1000, 2000]	$1.48 \,^{+\,0.21\,+\,0.52}_{-\,0.16\,-\,0.32}$	$1.51 \,^{+\,0.07\,+\,0.43}_{-\,0.06\,-\,0.26}$	$1.66 \,^{+\,0.06\,+\,0.36}_{-\,0.05\,-\,0.27}$	$1.61 \,^{+\,0.06\,+\,0.38}_{-\,0.06\,-\,0.26}$	$1.86 \,^{+\,0.15\,+\,0.53}_{-\,0.13\,-\,0.33}$
[2000, 3000]	$1.65 \,^{+\,0.14\,+\,0.42}_{-\,0.12\,-\,0.30}$	$1.73 \,^{+\,0.06\,+\,0.38}_{-\,0.06\,-\,0.27}$	$1.71 \,^{+\,0.05\,+\,0.32}_{-\,0.05\,-\,0.25}$	$1.83 \,^{+\,0.07\,+\,0.37}_{-\,0.06\,-\,0.26}$	$2.09 \,^{+\,0.17\,+\,0.64}_{-\,0.14\,-\,0.39}$
[3000, 4000]	$1.75 \,^{+\,0.13\,+\,0.40}_{-\,0.11\,-\,0.31}$	$1.80 \,^{+\,0.07\,+\,0.33}_{-\,0.06\,-\,0.27}$	$1.87 \,^{+\,0.07\,+\,0.32}_{-\,0.06\,-\,0.24}$	$2.04 \,^{+\,0.09\,+\,0.40}_{-\,0.09\,-\,0.28}$	$2.47 \,^{+\,0.26\,+\,0.74}_{-\,0.21\,-\,0.44}$
[4000, 5000]	$2.01 \,^{+\,0.16\,+\,0.42}_{-\,0.14\,-\,0.34}$	$1.90 \,^{+\,0.09\,+\,0.32}_{-\,0.08\,-\,0.26}$	$1.98 \,^{+\,0.10\,+\,0.35}_{-\,0.09\,-\,0.24}$	$2.34 \,^{+\,0.16\,+\,0.52}_{-\,0.14\,-\,0.33}$	$3.00 \,^{+\,0.48\,+\,0.93}_{-\,0.37\,-\,0.54}$
[5000, 6000]	$2.24 \,^{+\,0.23\,+\,0.52}_{-\,0.19\,-\,0.40}$	$2.07 \,^{+\,0.13\,+\,0.38}_{-\,0.12\,-\,0.28}$	$2.17 \,^{+\,0.15\,+\,0.38}_{-\,0.13\,-\,0.26}$	$2.48 \,^{+\,0.23\,+\,0.57}_{-\,0.19\,-\,0.36}$	$5.4 \,^{+\,\,2.1\,+\,\,2.2}_{-\,\,1.2\,-\,\,0.9}$
[6000, 7000]	$2.16 \,^{+\,0.27\,+\,0.49}_{-\,0.21\,-\,0.35}$	$2.14 \,^{+\,0.19\,+\,0.38}_{-\,0.16\,-\,0.27}$	$1.74 \,^{+\,0.15\,+\,0.48}_{-\,0.13\,-\,0.29}$	$3.06 \,^{+\,0.43\,+\,0.88}_{-\,0.34\,-\,0.53}$	
[7000, 8000]	$2.04 \,^{+\,0.33\,+\,0.53}_{-\,0.25\,-\,0.33}$	$2.26 \,^{+\,0.30\,+\,0.45}_{-\,0.24\,-\,0.28}$	$2.51 \,^{+\,0.37\,+\,0.76}_{-\,0.28\,-\,0.40}$	$4.0 \,^{+\,\,1.1\,+\,\,1.4}_{-\,\,0.7\,-\,\,0.7}$	

Table 10. The ratios of differential production cross-sections, $R_{13/7}$, for prompt $D^+ + D^-$ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic.

p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[1000, 2000]	$0.86\,^{+\,0.47\,+\,0.61}_{-\,0.23\,-\,0.24}$	$1.51\,^{+\,0.28\,+\,0.63}_{-\,0.21\,-\,0.31}$	$2.74\,^{+\,0.60\,+\,0.97}_{-\,0.41\,-\,0.53}$	$2.6\,^{+\,\,1.0\,+\,\,1.3}_{-\,\,0.6\,-\,\,0.5}$	
[2000, 3000]	$3.6\,^{+\,\,1.6\,+\,\,1.9}_{-\,\,0.8\,-\,\,0.8}$	$2.89\,^{+\,0.47\,+\,0.76}_{-\,0.35\,-\,0.46}$	$2.28\,^{+\,0.29\,+\,0.56}_{-\,0.24\,-\,0.35}$	$2.76\,^{+\,0.60\,+\,0.79}_{-\,0.42\,-\,0.43}$	$2.1\,^{+\,1.3\,+\,1.0}_{-\,0.6\,-\,0.4}$
[3000, 4000]	$3.6\,^{+\,\,1.4\,+\,\,1.5}_{-\,\,0.8\,-\,\,0.7}$	$2.29\,^{+\,0.34\,+\,0.55}_{-\,0.27\,-\,0.38}$	$2.41\,^{+\,0.40\,+\,0.69}_{-\,0.30\,-\,0.37}$	$2.55\,^{+\,0.55\,+\,0.73}_{-\,0.39\,-\,0.38}$	$2.9\,^{+\,2.2\,+\,1.3}_{-\,0.9\,-\,0.5}$
[4000, 5000]	$3.5\,^{+\,\,1.3\,+\,\,1.3}_{-\,\,0.8\,-\,\,0.6}$	$3.08\,^{+\,0.63\,+\,0.77}_{-\,0.45\,-\,0.44}$	$3.61\,^{+\,0.87\,+\,0.94}_{-\,0.59\,-\,0.48}$	$2.96\,^{+\,0.93\,+\,0.84}_{-\,0.57\,-\,0.43}$	
[5000, 6000]	$4.2\,^{+\,\,2.5\,+\,\,1.8}_{-\,\,1.1\,-\,\,0.8}$	$3.21\,^{+\,0.88\,+\,0.98}_{-\,0.58\,-\,0.44}$	$3.3\,^{+\,\,1.0\,+\,\,0.9}_{-\,\,0.7\,-\,\,0.4}$	$3.4\,^{+\,\,1.6\,+\,\,1.5}_{-\,\,0.8\,-\,\,0.5}$	
[6000, 7000]	$2.8\,^{+\,\,1.4\,+\,\,1.2}_{-\,\,0.7\,-\,\,0.5}$	$3.8\,^{+\,\,1.7\,+\,\,1.2}_{-\,\,0.9\,-\,\,0.5}$	$2.44\,^{+\,1.00\,+\,0.78}_{-\,0.55\,-\,0.33}$		
[7000, 8000]	$2.0\,^{+\,\,1.1\,+\,\,1.1}_{-\,\,0.5\,-\,\,0.4}$		$3.4\,^{+\,\,2.5\,+\,\,1.4}_{-\,\,1.0\,-\,\,0.5}$		

Table 11. The ratios of differential production cross-sections, $R_{13/7}$, for prompt $D_s^+ + D_s^-$ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic.

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p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]					$0.71 \,^{+\,0.30\,+\,0.33}_{-\,0.18\,-\,0.20}$
[1000, 2000]		$1.13 \,^{+\,0.18\,+\,0.24}_{-\,0.13\,-\,0.16}$	$1.53 \,^{+\,0.10\,+\,0.25}_{-\,0.09\,-\,0.21}$	$1.58 \,^{+\,0.14\,+\,0.27}_{-\,0.12\,-\,0.22}$	$1.75 \,^{+\,0.28\,+\,0.39}_{-\,0.21\,-\,0.22}$
[2000, 3000]		$1.75 \,^{+\,0.18\,+\,0.34}_{-\,0.15\,-\,0.22}$	$2.02 \,^{+\,0.13\,+\,0.33}_{-\,0.12\,-\,0.26}$	$1.72 \,^{+\,0.14\,+\,0.30}_{-\,0.12\,-\,0.21}$	$1.65 \,^{+\,0.24\,+\,0.33}_{-\,0.19\,-\,0.22}$
[3000, 4000]	$1.82 \,^{+\,0.46\,+\,0.40}_{-\,0.31\,-\,0.28}$	$1.67 \,^{+\,0.14\,+\,0.28}_{-\,0.12\,-\,0.23}$	$1.76 \,^{+\,0.13\,+\,0.32}_{-\,0.11\,-\,0.20}$	$1.89 \,^{+\,0.18\,+\,0.37}_{-\,0.15\,-\,0.24}$	$2.77 \,^{+\,0.72\,+\,0.65}_{-\,0.48\,-\,0.35}$
[4000, 5000]	$1.43 \,^{+\,0.28\,+\,0.29}_{-\,0.20\,-\,0.22}$	$2.21 \,^{+\,0.26\,+\,0.39}_{-\,0.21\,-\,0.31}$	$1.85 \,^{+\,0.19\,+\,0.34}_{-\,0.16\,-\,0.22}$	$2.11 \,^{+\,0.28\,+\,0.42}_{-\,0.22\,-\,0.27}$	$1.71 \,^{+\,0.74\,+\,0.53}_{-\,0.39\,-\,0.23}$
[5000, 6000]	$1.83 \,^{+\,0.50\,+\,0.37}_{-\,0.32\,-\,0.26}$	$1.80 \,^{+\,0.25\,+\,0.32}_{-\,0.20\,-\,0.25}$	$1.74 \,^{+\,0.24\,+\,0.35}_{-\,0.19\,-\,0.22}$	$2.53 \,^{+\,0.55\,+\,0.59}_{-\,0.39\,-\,0.27}$	
[6000, 7000]	$1.76 \,^{+\,0.57\,+\,0.40}_{-\,0.35\,-\,0.26}$	$2.20 \,^{+\,0.48\,+\,0.46}_{-\,0.34\,-\,0.30}$	$3.02 \,^{+\,0.94\,+\,0.77}_{-\,0.58\,-\,0.36}$	$3.3 \,^{+\,1.8\,+\,0.9}_{-\,0.8\,-\,0.4}$	
[7000, 8000]	$1.42 \,^{+\,0.71\,+\,0.42}_{-\,0.36\,-\,0.22}$	$1.93 \,^{+\,0.76\,+\,0.50}_{-\,0.42\,-\,0.26}$			

Table 12. The ratios of differential production cross-sections, $R_{13/7}$, for prompt $D^{*+} + D^{*-}$ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic.

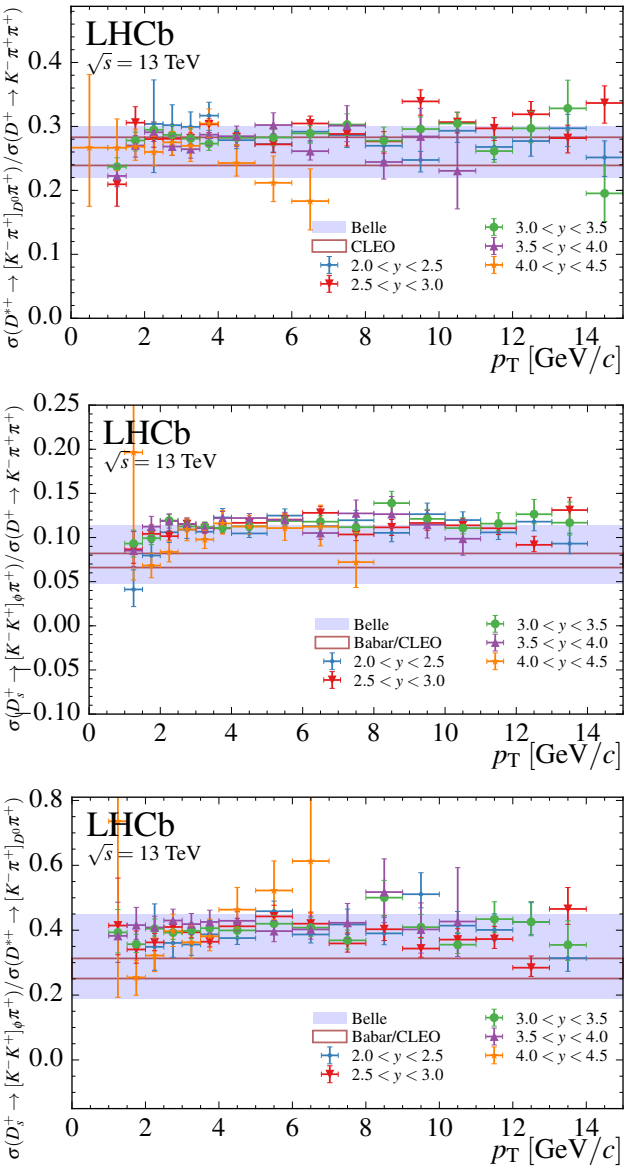

Figure 10. Ratios of cross-section-times-branching-fraction measurements of (top) D^{*+}, and (middle) D_s^+ mesons with respect to D^+ cross-sections, and (bottom) D_s^+ over D^{*+} mesons. The bands indicate the corresponding ratios computed using measurements from e^+e^- collider experiments [39–41]. The ratios are given as a function of p_T and different symbols indicate different ranges in y. The notation $\sigma(D \to f)$ is shorthand for $\sigma(D) \times \mathcal{B}(D \to f)$.

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p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]		$132 ^{+ 5}_{- 5} ^{+ 29}_{- 23}$	$89 ^{+ 2}_{- 2} ^{+ 10}_{- 10}$	$89 ^{+ 3}_{- 3} ^{+ 10}_{- 10}$	$82 ^{+ 5}_{- 5} ^{+ 17}_{- 16}$
[1000, 1500]	$99 ^{+ 4}_{- 4} ^{+ 20}_{- 19}$	$87.3 ^{+ 0.9}_{- 1.0} ^{+ 11.8}_{- 7.0}$	$95.5 ^{+ 0.8}_{- 0.8} ^{+ 6.3}_{- 6.1}$	$91.1 ^{+ 1.0}_{- 1.0} ^{+ 5.9}_{- 5.6}$	$95.8 ^{+ 2.1}_{- 2.1} ^{+ 9.2}_{- 8.8}$
[1500, 2000]	$88.3 ^{+ 1.5}_{- 1.5} ^{+ 9.9}_{- 9.1}$	$86.1 ^{+ 0.5}_{- 0.5} ^{+ 8.5}_{- 6.0}$	$95.1 ^{+ 0.5}_{- 0.5} ^{+ 4.8}_{- 5.5}$	$91.3 ^{+ 0.6}_{- 0.6} ^{+ 4.6}_{- 4.5}$	$95.2 ^{+ 1.4}_{- 1.4} ^{+ 6.8}_{- 6.9}$
[2000, 2500]	$88.0 ^{+ 1.0}_{- 1.0} ^{+ 8.8}_{- 7.0}$	$94.4 ^{+ 0.5}_{- 0.5} ^{+ 7.4}_{- 5.7}$	$92.9 ^{+ 0.4}_{- 0.4} ^{+ 3.7}_{- 4.6}$	$88.4 ^{+ 0.5}_{- 0.5} ^{+ 3.7}_{- 3.9}$	$98.0 ^{+ 1.2}_{- 1.2} ^{+ 6.0}_{- 5.1}$
[2500, 3000]	$88.8 ^{+ 0.9}_{- 0.9} ^{+ 8.2}_{- 7.0}$	$96.6 ^{+ 0.5}_{- 0.5} ^{+ 4.5}_{- 6.5}$	$94.1 ^{+ 0.4}_{- 0.4} ^{+ 3.5}_{- 4.3}$	$96.9 ^{+ 0.6}_{- 0.6} ^{+ 4.0}_{- 4.7}$	$96.6 ^{+ 1.2}_{- 1.2} ^{+ 5.8}_{- 4.6}$
[3000, 3500]	$90.9 ^{+ 0.9}_{- 0.9} ^{+ 8.1}_{- 7.4}$	$100.5 ^{+ 0.5}_{- 0.5} ^{+ 4.5}_{- 6.1}$	$101.6 ^{+ 0.5}_{- 0.5} ^{+ 3.7}_{- 4.2}$	$96.3 ^{+ 0.6}_{- 0.6} ^{+ 4.2}_{- 4.8}$	$96.1 ^{+ 1.4}_{- 1.3} ^{+ 6.0}_{- 5.2}$
[3500, 4000]	$91.0 ^{+ 0.9}_{- 0.9} ^{+ 7.2}_{- 7.5}$	$98.4 ^{+ 0.5}_{- 0.5} ^{+ 4.6}_{- 5.3}$	$105.7 ^{+ 0.6}_{- 0.6} ^{+ 4.2}_{- 4.1}$	$94.8 ^{+ 0.7}_{- 0.7} ^{+ 4.3}_{- 4.0}$	$91.8 ^{+ 1.5}_{- 1.5} ^{+ 7.2}_{- 7.2}$
[4000, 5000]	$103.2 ^{+ 0.8}_{- 0.8} ^{+ 5.9}_{- 8.7}$	$103.0 ^{+ 0.5}_{- 0.5} ^{+ 4.3}_{- 5.0}$	$100.9 ^{+ 0.5}_{- 0.5} ^{+ 4.0}_{- 3.3}$	$98.9 ^{+ 0.7}_{- 0.6} ^{+ 4.6}_{- 2.7}$	$125 ^{+ 2}_{- 2} ^{+ 13}_{- 14}$
[5000, 6000]	$100.2 ^{+ 0.9}_{- 0.9} ^{+ 4.9}_{- 8.1}$	$108.2 ^{+ 0.6}_{- 0.6} ^{+ 4.6}_{- 4.8}$	$105.6 ^{+ 0.7}_{- 0.7} ^{+ 4.7}_{- 3.3}$	$106.6 ^{+ 1.0}_{- 1.0} ^{+ 4.6}_{- 4.2}$	$149 ^{+ 6}_{- 6} ^{+ 26}_{- 27}$
[6000, 7000]	$106.0 ^{+ 1.1}_{- 1.1} ^{+ 5.5}_{- 7.6}$	$101.1 ^{+ 0.8}_{- 0.8} ^{+ 4.5}_{- 4.3}$	$103.0 ^{+ 0.9}_{- 0.9} ^{+ 5.1}_{- 3.3}$	$112.8 ^{+ 1.6}_{- 1.5} ^{+ 7.7}_{- 8.3}$	$210 ^{+ 40}_{- 30} ^{+ 130}_{- 90}$
[7000, 8000]	$115.5 ^{+ 1.6}_{- 1.5} ^{+ 6.9}_{- 7.8}$	$102.8 ^{+ 1.0}_{- 1.0} ^{+ 4.7}_{- 4.7}$	$104.8 ^{+ 1.2}_{- 1.2} ^{+ 6.1}_{- 3.6}$	$122 ^{+ 3}_{- 3} ^{+ 12}_{- 14}$	
[8000, 9000]	$119.5 ^{+ 2.0}_{- 1.9} ^{+ 8.5}_{- 7.6}$	$108.2 ^{+ 1.4}_{- 1.4} ^{+ 5.6}_{- 5.7}$	$113.0 ^{+ 1.7}_{- 1.7} ^{+ 7.2}_{- 5.0}$	$114 ^{+ 5}_{- 5} ^{+ 17}_{- 17}$	
[9000, 10000]	$87.8 ^{+ 1.8}_{- 1.7} ^{+ 4.8}_{- 4.2}$	$91.0 ^{+ 1.5}_{- 1.5} ^{+ 3.5}_{- 3.8}$	$102.0 ^{+ 2.1}_{- 2.0} ^{+ 3.2}_{- 4.4}$	$143 ^{+ 12}_{- 11} ^{+ 24}_{- 28}$	
[10000, 11000]	$108.4 ^{+ 2.7}_{- 2.7} ^{+ 5.3}_{- 4.5}$	$104.7 ^{+ 2.2}_{- 2.2} ^{+ 2.7}_{- 4.1}$	$113.7 ^{+ 3.2}_{- 3.1} ^{+ 4.2}_{- 6.8}$	$146 ^{+ 32}_{- 23} ^{+ 32}_{- 32}$	
[11000, 12000]	$114.9 ^{+ 3.6}_{- 3.4} ^{+ 5.5}_{- 5.2}$	$101.4 ^{+ 2.7}_{- 2.6} ^{+ 2.6}_{- 3.8}$	$119.3 ^{+ 4.9}_{- 4.4} ^{+ 4.8}_{- 7.3}$		
[12000, 13000]	$119.2 ^{+ 4.6}_{- 4.5} ^{+ 7.2}_{- 6.9}$	$101.0 ^{+ 3.4}_{- 3.2} ^{+ 2.8}_{- 4.2}$	$110.4 ^{+ 6.3}_{- 6.0} ^{+ 6.8}_{- 6.6}$		
[13000, 14000]	$114.2 ^{+ 5.3}_{- 5.0} ^{+ 6.6}_{- 6.5}$	$97.8 ^{+ 4.0}_{- 3.9} ^{+ 4.2}_{- 4.0}$	$125 ^{+ 10}_{- 9} ^{+ 15}_{- 16}$		
[14000, 15000]	$118.1 ^{+ 6.9}_{- 6.3} ^{+ 7.2}_{- 5.7}$	$100.9 ^{+ 5.2}_{- 4.9} ^{+ 5.9}_{- 3.8}$	$142 ^{+ 20}_{- 16} ^{+ 25}_{- 18}$		

Table 13. The ratios of differential production cross-section-times-branching fraction measurements for prompt D^+ and D^0 mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic. All values are given in percent.

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p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[1000, 1500]	$4.1^{+1.0+1.8}_{-1.0-1.6}$	$7.6^{+0.5+2.3}_{-0.5-1.4}$	$8.9^{+0.5+1.4}_{-0.5-1.4}$	$7.7^{+0.8+1.9}_{-0.8-1.5}$	19^{+6+5}_{-6-12}
[1500, 2000]	$7.0^{+0.4+1.5}_{-0.4-1.2}$	$9.0^{+0.2+1.5}_{-0.2-1.1}$	$9.43^{+0.24+0.72}_{-0.24-0.78}$	$10.3^{+0.4+1.0}_{-0.4-1.0}$	$6.5^{+0.7+1.1}_{-0.7-1.1}$
[2000, 2500]	$9.3^{+0.3+1.6}_{-0.3-1.2}$	$9.59^{+0.17+0.99}_{-0.17-0.65}$	$11.07^{+0.19+0.66}_{-0.19-0.70}$	$10.50^{+0.25+0.71}_{-0.25-0.74}$	$8.2^{+0.5+1.1}_{-0.5-1.0}$
[2500, 3000]	$9.7^{+0.3+1.4}_{-0.3-1.1}$	$11.12^{+0.16+0.58}_{-0.16-0.90}$	$10.59^{+0.15+0.61}_{-0.15-0.50}$	$11.19^{+0.22+0.65}_{-0.23-0.73}$	$10.6^{+0.5+1.1}_{-0.5-1.1}$
[3000, 3500]	$9.7^{+0.3+1.2}_{-0.3-1.0}$	$11.13^{+0.16+0.57}_{-0.17-0.78}$	$11.36^{+0.17+0.62}_{-0.17-0.51}$	$10.66^{+0.22+0.62}_{-0.21-0.70}$	$9.40^{+0.46+0.96}_{-0.46-0.87}$
[3500, 4000]	$11.2^{+0.3+1.2}_{-0.3-1.0}$	$10.88^{+0.17+0.55}_{-0.17-0.72}$	$11.72^{+0.19+0.60}_{-0.19-0.54}$	$11.58^{+0.25+0.73}_{-0.25-0.71}$	$10.6^{+0.6+1.3}_{-0.6-1.1}$
[4000, 5000]	$10.80^{+0.22+0.90}_{-0.21-0.97}$	$12.01^{+0.15+0.60}_{-0.15-0.61}$	$11.37^{+0.15+0.48}_{-0.15-0.42}$	$12.08^{+0.22+0.57}_{-0.22-0.54}$	$14.0^{+0.7+2.1}_{-0.6-1.7}$
[5000, 6000]	$12.5^{+0.3+0.8}_{-0.3-1.2}$	$13.02^{+0.21+0.77}_{-0.20-0.58}$	$12.53^{+0.22+0.65}_{-0.22-0.51}$	$12.79^{+0.30+0.88}_{-0.29-0.67}$	$16.5^{+1.2+2.8}_{-1.2-2.7}$
[6000, 7000]	$11.95^{+0.33+0.81}_{-0.33-1.00}$	$12.94^{+0.27+0.77}_{-0.26-0.62}$	$12.15^{+0.28+0.73}_{-0.27-0.59}$	$11.86^{+0.40+0.96}_{-0.39-0.66}$	23^{+5+15}_{-4-10}
[7000, 8000]	$13.8^{+0.5+1.2}_{-0.5-1.1}$	$10.64^{+0.29+0.58}_{-0.29-0.68}$	$11.71^{+0.35+0.94}_{-0.34-0.62}$	$15.5^{+0.8+2.2}_{-0.8-1.8}$	
[8000, 9000]	$12.6^{+0.5+1.3}_{-0.5-1.1}$	$12.06^{+0.41+0.84}_{-0.41-0.93}$	$15.7^{+0.6+1.6}_{-0.6-1.2}$	$14.5^{+1.1+3.0}_{-1.1-2.6}$	
[9000, 10000]	$11.11^{+0.56+0.96}_{-0.55-0.74}$	$10.60^{+0.46+0.57}_{-0.45-0.57}$	$12.35^{+0.61+0.79}_{-0.59-0.65}$	$16.3^{+2.1+3.7}_{-1.9-3.7}$	
[10000, 11000]	$12.84^{+0.80+0.82}_{-0.78-0.23}$	$11.92^{+0.63+0.24}_{-0.63-0.36}$	$12.30^{+0.82+0.77}_{-0.82-0.14}$	$14.5^{+4.1+4.8}_{-3.2-3.9}$	
[11000, 12000]	$12.05^{+0.94+0.69}_{-0.94-0.33}$	$11.21^{+0.74+0.42}_{-0.74-0.27}$	$13.5^{+1.1+1.0}_{-1.1-0.4}$		
[12000, 13000]	$14.0^{+1.2+0.9}_{-1.2-0.6}$	$9.17^{+0.81+0.43}_{-0.80-0.25}$	$14.0^{+1.5+1.0}_{-1.4-1.0}$		
[13000, 14000]	$10.6^{+1.3+0.6}_{-1.2-0.5}$	$12.8^{+1.2+0.8}_{-1.1-0.3}$	$14.1^{+2.2+1.9}_{-2.0-0.2}$		
[14000, 15000]					

Table 14. The ratios of differential production cross-section-times-branching-fraction measurements for prompt D_s^+ and D^0 mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic. All values are given in percent.

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p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]					$21.9 \pm 3.0 \pm 6.7 \pm 3.0 \pm 6.3$
[1000, 1500]		$18.3 \pm 0.8 \pm 2.0 \pm 0.8 \pm 2.0$	$22.6 \pm 0.3 \pm 1.3 \pm 0.3 \pm 1.6$	$20.3 \pm 0.3 \pm 1.4 \pm 0.3 \pm 1.5$	$25.5 \pm 0.8 \pm 3.7 \pm 0.8 \pm 3.1$
[1500, 2000]		$26.3 \pm 0.5 \pm 1.8 \pm 0.4 \pm 1.6$	$26.4 \pm 0.2 \pm 1.3 \pm 0.2 \pm 1.9$	$24.7 \pm 0.3 \pm 1.5 \pm 0.3 \pm 1.9$	$25.5 \pm 0.6 \pm 2.5 \pm 0.6 \pm 2.0$
[2000, 2500]	$26.8 \pm 2.4 \pm 5.7 \pm 2.4 \pm 6.0$	$26.5 \pm 0.3 \pm 1.9 \pm 0.3 \pm 1.1$	$27.4 \pm 0.2 \pm 1.3 \pm 0.2 \pm 1.8$	$25.7 \pm 0.2 \pm 1.6 \pm 0.2 \pm 1.6$	$25.5 \pm 0.5 \pm 2.6 \pm 0.5 \pm 2.1$
[2500, 3000]	$26.8 \pm 0.9 \pm 2.9 \pm 0.9 \pm 3.1$	$27.1 \pm 0.3 \pm 1.2 \pm 0.3 \pm 1.7$	$27.0 \pm 0.2 \pm 1.6 \pm 0.2 \pm 1.5$	$26.0 \pm 0.2 \pm 1.7 \pm 0.3 \pm 1.7$	$26.6 \pm 0.6 \pm 1.8 \pm 0.6 \pm 2.0$
[3000, 3500]	$27.2 \pm 0.7 \pm 2.2 \pm 0.7 \pm 2.5$	$28.3 \pm 0.2 \pm 1.2 \pm 0.2 \pm 1.9$	$28.6 \pm 0.2 \pm 1.7 \pm 0.2 \pm 1.4$	$25.5 \pm 0.3 \pm 1.8 \pm 0.3 \pm 1.8$	$25.9 \pm 0.6 \pm 2.7 \pm 0.6 \pm 2.2$
[3500, 4000]	$28.9 \pm 0.6 \pm 2.1 \pm 0.6 \pm 2.5$	$29.8 \pm 0.3 \pm 1.4 \pm 0.3 \pm 2.1$	$28.9 \pm 0.2 \pm 1.8 \pm 0.2 \pm 1.4$	$27.2 \pm 0.3 \pm 1.9 \pm 0.3 \pm 1.7$	$27.9 \pm 0.8 \pm 2.7 \pm 0.8 \pm 2.7$
[4000, 5000]	$28.8 \pm 0.4 \pm 1.4 \pm 0.4 \pm 2.3$	$29.2 \pm 0.2 \pm 1.3 \pm 0.2 \pm 2.0$	$28.5 \pm 0.2 \pm 1.6 \pm 0.2 \pm 1.4$	$28.2 \pm 0.3 \pm 2.0 \pm 0.3 \pm 1.5$	$30.3 \pm 0.9 \pm 2.3 \pm 0.9 \pm 2.2$
[5000, 6000]	$27.3 \pm 0.4 \pm 1.3 \pm 0.4 \pm 2.3$	$29.4 \pm 0.2 \pm 1.4 \pm 0.2 \pm 2.0$	$29.9 \pm 0.3 \pm 1.7 \pm 0.3 \pm 1.3$	$32.2 \pm 0.4 \pm 2.3 \pm 0.5 \pm 1.6$	$31.5 \pm 2.1 \pm 4.1 \pm 2.0 \pm 3.7$
[6000, 7000]	$30.9 \pm 0.5 \pm 1.8 \pm 0.5 \pm 2.6$	$30.8 \pm 0.3 \pm 1.6 \pm 0.3 \pm 2.1$	$29.8 \pm 0.4 \pm 1.7 \pm 0.4 \pm 1.5$	$29.5 \pm 0.6 \pm 2.2 \pm 0.6 \pm 2.2$	$38 \pm 10 \pm 24 - 8 - 17$
[7000, 8000]	$33.1 \pm 0.7 \pm 2.0 \pm 0.7 \pm 2.9$	$29.6 \pm 0.4 \pm 1.7 \pm 0.4 \pm 2.3$	$31.7 \pm 0.5 \pm 2.2 \pm 0.5 \pm 1.6$	$36.8 \pm 1.3 \pm 4.4 \pm 1.2 \pm 4.3$	
[8000, 9000]	$32.2 \pm 0.8 \pm 2.2 \pm 0.8 \pm 2.9$	$29.9 \pm 0.5 \pm 1.9 \pm 0.5 \pm 2.3$	$31.4 \pm 0.7 \pm 2.8 \pm 0.7 \pm 1.7$	$28.0 \pm 1.8 \pm 4.1 \pm 1.7 \pm 3.4$	
[9000, 10000]	$21.8 \pm 0.7 \pm 1.2 \pm 0.7 \pm 1.7$	$30.9 \pm 0.7 \pm 1.6 \pm 0.7 \pm 2.1$	$30.2 \pm 0.8 \pm 1.6 \pm 0.8 \pm 1.5$	$40.6 \pm 4.8 \pm 6.1 \pm 4.3 \pm 7.0$	
[10000, 11000]	$31.8 \pm 1.2 \pm 1.6 \pm 1.1 \pm 2.2$	$32.1 \pm 0.9 \pm 1.6 \pm 0.9 \pm 2.1$	$34.6 \pm 1.4 \pm 1.8 \pm 1.3 \pm 1.8$	$34 \pm 10 \pm 13 - 8 - 11$	
[11000, 12000]	$30.8 \pm 1.3 \pm 1.6 \pm 1.4 \pm 2.5$	$30.1 \pm 1.1 \pm 1.4 \pm 1.1 \pm 2.0$	$31.2 \pm 1.8 \pm 1.6 \pm 1.7 \pm 1.7$		
[12000, 13000]	$33.0 \pm 1.8 \pm 2.1 \pm 1.8 \pm 3.1$	$32.2 \pm 1.4 \pm 1.6 \pm 1.4 \pm 2.2$	$32.8 \pm 2.5 \pm 2.2 \pm 2.4 \pm 1.8$		
[13000, 14000]	$34.0 \pm 2.1 \pm 1.8 \pm 2.1 \pm 3.0$	$27.6 \pm 1.6 \pm 1.5 \pm 1.6 \pm 2.0$	$41.2 \pm 4.7 \pm 3.1 \pm 4.3 \pm 3.4$		
[14000, 15000]	$29.7 \pm 2.5 \pm 1.9 \pm 2.4 \pm 2.4$	$34.0 \pm 2.5 \pm 2.3 \pm 2.3 \pm 2.5$	$27.8 \pm 5.6 \pm 6.7 \pm 4.8 \pm 5.7$		

Table 15. The ratios of differential production cross-section-times-branching-fraction measurements for prompt D^{*+} and D^0 mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic. All values are given in percent.

p_{T} [MeV/c]	y				
	$[2, 2.5]$	$[2.5, 3]$	$[3, 3.5]$	$[3.5, 4]$	$[4, 4.5]$
$[1000, 1500]$	$4.1^{+1.0+2.0}_{-1.0-1.7}$	$8.7^{+0.6+1.9}_{-0.6-1.5}$	$9.3^{+0.6+1.4}_{-0.6-1.4}$	$8.5^{+0.8+2.0}_{-0.8-1.6}$	20^{+6+5}_{-6-13}
$[1500, 2000]$	$8.0^{+0.5+1.5}_{-0.5-1.2}$	$10.42^{+0.28+0.98}_{-0.28-0.86}$	$9.92^{+0.25+0.68}_{-0.25-0.67}$	$11.2^{+0.4+1.1}_{-0.4-1.0}$	$6.8^{+0.7+1.2}_{-0.7-1.2}$
$[2000, 2500]$	$10.6^{+0.4+1.4}_{-0.4-1.1}$	$10.15^{+0.18+0.58}_{-0.18-0.42}$	$11.93^{+0.20+0.64}_{-0.21-0.56}$	$11.88^{+0.28+0.76}_{-0.28-0.76}$	$8.4^{+0.5+1.1}_{-0.6-1.0}$
$[2500, 3000]$	$10.9^{+0.3+1.2}_{-0.3-0.9}$	$11.51^{+0.17+0.44}_{-0.17-0.52}$	$11.25^{+0.17+0.60}_{-0.16-0.36}$	$11.55^{+0.23+0.65}_{-0.23-0.64}$	$10.9^{+0.5+1.1}_{-0.5-1.2}$
$[3000, 3500]$	$10.66^{+0.30+0.93}_{-0.29-0.70}$	$11.07^{+0.16+0.42}_{-0.17-0.45}$	$11.18^{+0.17+0.56}_{-0.17-0.39}$	$11.07^{+0.22+0.59}_{-0.22-0.58}$	$9.77^{+0.48+0.93}_{-0.48-0.88}$
$[3500, 4000]$	$12.27^{+0.33+0.95}_{-0.33-0.67}$	$11.05^{+0.17+0.43}_{-0.17-0.49}$	$11.09^{+0.18+0.54}_{-0.18-0.46}$	$12.21^{+0.27+0.69}_{-0.26-0.69}$	$11.6^{+0.6+1.3}_{-0.6-1.0}$
$[4000, 5000]$	$10.47^{+0.21+0.66}_{-0.21-0.41}$	$11.66^{+0.15+0.46}_{-0.15-0.36}$	$11.27^{+0.15+0.42}_{-0.15-0.42}$	$12.21^{+0.22+0.45}_{-0.22-0.63}$	$11.2^{+0.5+1.1}_{-0.5-0.7}$
$[5000, 6000]$	$12.49^{+0.29+0.70}_{-0.29-0.65}$	$12.03^{+0.19+0.62}_{-0.19-0.41}$	$11.87^{+0.20+0.51}_{-0.20-0.54}$	$12.00^{+0.28+0.81}_{-0.27-0.63}$	$11.1^{+0.7+1.4}_{-0.7-1.2}$
$[6000, 7000]$	$11.28^{+0.31+0.71}_{-0.31-0.65}$	$12.80^{+0.26+0.70}_{-0.26-0.57}$	$11.80^{+0.27+0.62}_{-0.27-0.66}$	$10.51^{+0.34+0.99}_{-0.33-0.62}$	$11.2^{+1.3+2.0}_{-1.3-1.7}$
$[7000, 8000]$	$12.0^{+0.4+1.0}_{-0.4-0.8}$	$10.35^{+0.28+0.58}_{-0.27-0.65}$	$11.17^{+0.33+0.74}_{-0.33-0.69}$	$12.7^{+0.6+1.4}_{-0.6-0.9}$	$7.2^{+2.0+2.7}_{-1.9-2.2}$
$[8000, 9000]$	$10.53^{+0.43+0.98}_{-0.44-0.91}$	$11.15^{+0.38+0.81}_{-0.38-0.83}$	$13.9^{+0.5+1.2}_{-0.5-1.2}$	$12.7^{+0.9+1.8}_{-0.8-1.3}$	
$[9000, 10000]$	$12.6^{+0.6+1.1}_{-0.6-0.8}$	$11.65^{+0.49+0.76}_{-0.50-0.66}$	$12.11^{+0.58+0.92}_{-0.58-0.62}$	$11.4^{+1.1+1.2}_{-1.1-1.0}$	
$[10000, 11000]$	$11.98^{+0.72+0.37}_{-0.72-0.36}$	$11.38^{+0.59+0.43}_{-0.61-0.17}$	$11.07^{+0.70+0.60}_{-0.71-0.59}$	$9.9^{+1.8+1.1}_{-1.7-0.7}$	
$[11000, 12000]$	$10.58^{+0.80+0.36}_{-0.81-0.35}$	$11.05^{+0.73+0.52}_{-0.71-0.14}$	$11.57^{+0.89+0.45}_{-0.89-0.44}$		
$[12000, 13000]$	$11.8^{+1.0+0.6}_{-1.0-0.2}$	$9.17^{+0.79+0.38}_{-0.78-0.38}$	$12.6^{+1.2+0.6}_{-1.2-0.6}$		
$[13000, 14000]$	$9.3^{+1.1+0.4}_{-1.1-0.4}$	$13.1^{+1.2+0.8}_{-1.2-0.2}$	$11.7^{+1.6+1.1}_{-1.6-1.0}$		
$[14000, 15000]$					

Table 16. The ratios of differential production cross-section-times-branching-fraction measurements for prompt D_s^+ and D^+ mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic. All values are given in percent.

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p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[0, 1000]					$27 ^{+ \ 4 + \ 11}_{- \ 4 - \ 8}$
[1000, 1500]		$20.9 ^{+ 0.9 + 2.5}_{- 0.9 - 3.3}$	$23.7 ^{+ 0.3 + 1.4}_{- 0.4 - 1.6}$	$22.3 ^{+ 0.4 + 1.5}_{- 0.4 - 1.6}$	$26.7 ^{+ 1.0 + 4.4}_{- 1.0 - 3.4}$
[1500, 2000]		$30.6 ^{+ 0.5 + 2.4}_{- 0.5 - 2.8}$	$27.8 ^{+ 0.2 + 1.3}_{- 0.2 - 1.6}$	$27.0 ^{+ 0.3 + 1.5}_{- 0.3 - 1.8}$	$26.8 ^{+ 0.7 + 2.7}_{- 0.6 - 2.0}$
[2000, 2500]	$30.4 ^{+ 2.8 + 6.3}_{- 2.7 - 7.1}$	$28.0 ^{+ 0.3 + 1.7}_{- 0.3 - 1.2}$	$29.5 ^{+ 0.2 + 1.2}_{- 0.2 - 1.4}$	$29.1 ^{+ 0.3 + 1.6}_{- 0.3 - 1.4}$	$26.0 ^{+ 0.5 + 2.4}_{- 0.5 - 2.1}$
[2500, 3000]	$30.2 ^{+ 1.1 + 3.0}_{- 1.1 - 3.5}$	$28.1 ^{+ 0.3 + 1.0}_{- 0.3 - 1.0}$	$28.7 ^{+ 0.2 + 1.5}_{- 0.2 - 1.1}$	$26.9 ^{+ 0.3 + 1.6}_{- 0.3 - 1.4}$	$27.5 ^{+ 0.6 + 1.6}_{- 0.6 - 1.9}$
[3000, 3500]	$29.9 ^{+ 0.8 + 2.2}_{- 0.8 - 2.6}$	$28.1 ^{+ 0.2 + 0.8}_{- 0.3 - 1.0}$	$28.1 ^{+ 0.2 + 1.5}_{- 0.2 - 1.0}$	$26.4 ^{+ 0.3 + 1.6}_{- 0.3 - 1.4}$	$27.0 ^{+ 0.6 + 2.8}_{- 0.6 - 2.4}$
[3500, 4000]	$31.7 ^{+ 0.7 + 2.0}_{- 0.7 - 2.2}$	$30.3 ^{+ 0.3 + 0.8}_{- 0.3 - 1.2}$	$27.3 ^{+ 0.2 + 1.4}_{- 0.2 - 1.0}$	$28.7 ^{+ 0.3 + 1.7}_{- 0.3 - 1.6}$	$30.4 ^{+ 0.8 + 2.1}_{- 0.8 - 2.0}$
[4000, 5000]	$27.9 ^{+ 0.4 + 1.3}_{- 0.4 - 1.3}$	$28.3 ^{+ 0.2 + 0.7}_{- 0.2 - 1.2}$	$28.2 ^{+ 0.2 + 1.2}_{- 0.2 - 1.1}$	$28.5 ^{+ 0.3 + 1.6}_{- 0.3 - 1.6}$	$24.3 ^{+ 0.7 + 2.7}_{- 0.7 - 1.9}$
[5000, 6000]	$27.2 ^{+ 0.4 + 1.2}_{- 0.4 - 1.2}$	$27.2 ^{+ 0.2 + 0.8}_{- 0.2 - 1.3}$	$28.3 ^{+ 0.2 + 1.3}_{- 0.2 - 1.3}$	$30.2 ^{+ 0.4 + 1.9}_{- 0.4 - 1.3}$	$21.2 ^{+ 1.2 + 4.0}_{- 1.2 - 2.7}$
[6000, 7000]	$29.2 ^{+ 0.5 + 1.4}_{- 0.5 - 1.5}$	$30.5 ^{+ 0.3 + 1.1}_{- 0.3 - 1.6}$	$28.9 ^{+ 0.3 + 1.2}_{- 0.3 - 1.5}$	$26.1 ^{+ 0.5 + 1.6}_{- 0.5 - 1.3}$	$18.3 ^{+ 3.0 + 4.0}_{- 3.0 - 3.4}$
[7000, 8000]	$28.7 ^{+ 0.6 + 1.4}_{- 0.6 - 1.9}$	$28.8 ^{+ 0.4 + 1.4}_{- 0.4 - 1.8}$	$30.3 ^{+ 0.5 + 1.6}_{- 0.5 - 1.6}$	$30.1 ^{+ 0.9 + 3.0}_{- 0.9 - 2.3}$	
[8000, 9000]	$27.0 ^{+ 0.7 + 1.4}_{- 0.7 - 2.2}$	$27.7 ^{+ 0.5 + 1.4}_{- 0.5 - 1.8}$	$27.8 ^{+ 0.6 + 2.1}_{- 0.5 - 1.6}$	$24.4 ^{+ 1.2 + 3.8}_{- 1.2 - 2.4}$	
[9000, 10000]	$24.7 ^{+ 0.8 + 1.1}_{- 0.8 - 1.7}$	$33.9 ^{+ 0.7 + 1.7}_{- 0.7 - 2.0}$	$29.6 ^{+ 0.8 + 1.7}_{- 0.8 - 1.3}$	$28.4 ^{+ 2.6 + 3.6}_{- 2.5 - 2.8}$	
[10000, 11000]	$29.3 ^{+ 1.0 + 0.6}_{- 1.0 - 1.5}$	$30.7 ^{+ 0.8 + 1.3}_{- 0.8 - 1.5}$	$30.5 ^{+ 1.1 + 1.4}_{- 1.0 - 0.3}$	$23.1 ^{+ 4.2 + 4.8}_{- 4.1 - 4.3}$	
[11000, 12000]	$26.8 ^{+ 1.2 + 0.8}_{- 1.1 - 1.6}$	$29.7 ^{+ 1.0 + 1.3}_{- 1.0 - 1.6}$	$26.1 ^{+ 1.3 + 1.9}_{- 1.3 - 1.2}$		
[12000, 13000]	$27.7 ^{+ 1.4 + 1.0}_{- 1.4 - 1.9}$	$31.9 ^{+ 1.3 + 1.5}_{- 1.3 - 1.7}$	$29.7 ^{+ 2.0 + 1.7}_{- 2.0 - 1.1}$		
[13000, 14000]	$29.7 ^{+ 1.8 + 1.2}_{- 1.7 - 2.3}$	$28.2 ^{+ 1.6 + 1.3}_{- 1.5 - 1.8}$	$32.8 ^{+ 3.0 + 3.2}_{- 2.8 - 2.0}$		
[14000, 15000]	$25.1 ^{+ 2.0 + 1.7}_{- 1.9 - 2.2}$	$33.7 ^{+ 2.2 + 1.6}_{- 2.1 - 2.4}$	$19.5 ^{+ 3.0 + 3.2}_{- 2.9 - 3.3}$		

Table 17. The ratios of differential production cross-section-times-branching-fraction for prompt D^{*+} and D^{+} mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic. All values are given in percent.

p_{T} [MeV/c]	y [2, 2.5]	[2.5, 3]	[3, 3.5]	[3.5, 4]	[4, 4.5]
[1000, 1500]		$41 ^{+ 3}_{- 3} ^{+ 14}_{- 8}$	$39.3 ^{+ 2.4}_{- 2.4} ^{+ 6.6}_{- 5.8}$	$38.3 ^{+ 3.9}_{- 3.8} ^{+ 9.6}_{- 7.2}$	$74 ^{+ 24}_{- 24} ^{+ 22}_{- 49}$
[1500, 2000]		$34.1 ^{+ 1.1}_{- 1.0} ^{+ 5.6}_{- 4.1}$	$35.7 ^{+ 0.9}_{- 0.9} ^{+ 2.9}_{- 2.4}$	$41.6 ^{+ 1.5}_{- 1.5} ^{+ 5.2}_{- 4.1}$	$25.4 ^{+ 2.7}_{- 2.6} ^{+ 4.6}_{- 4.8}$
[2000, 2500]	$35 ^{+ 4}_{- 3} ^{+ 13}_{- 7}$	$36.2 ^{+ 0.7}_{- 0.7} ^{+ 2.7}_{- 2.5}$	$40.5 ^{+ 0.7}_{- 0.7} ^{+ 2.9}_{- 2.1}$	$40.8 ^{+ 1.0}_{- 1.0} ^{+ 3.3}_{- 3.3}$	$32.2 ^{+ 2.2}_{- 2.2} ^{+ 5.0}_{- 4.5}$
[2500, 3000]	$36.1 ^{+ 1.7}_{- 1.6} ^{+ 6.7}_{- 4.1}$	$41.0 ^{+ 0.7}_{- 0.7} ^{+ 1.8}_{- 2.1}$	$39.3 ^{+ 0.6}_{- 0.6} ^{+ 2.6}_{- 2.0}$	$43.0 ^{+ 0.9}_{- 0.9} ^{+ 3.4}_{- 3.4}$	$39.7 ^{+ 2.1}_{- 2.1} ^{+ 4.8}_{- 4.2}$
[3000, 3500]	$35.6 ^{+ 1.3}_{- 1.3} ^{+ 4.9}_{- 3.1}$	$39.4 ^{+ 0.7}_{- 0.6} ^{+ 1.8}_{- 1.6}$	$39.8 ^{+ 0.6}_{- 0.6} ^{+ 2.3}_{- 2.3}$	$41.9 ^{+ 0.9}_{- 0.9} ^{+ 3.1}_{- 3.2}$	$36.2 ^{+ 1.9}_{- 1.9} ^{+ 4.7}_{- 4.5}$
[3500, 4000]	$38.7 ^{+ 1.3}_{- 1.3} ^{+ 4.1}_{- 2.6}$	$36.4 ^{+ 0.6}_{- 0.6} ^{+ 1.9}_{- 1.5}$	$40.6 ^{+ 0.7}_{- 0.7} ^{+ 2.4}_{- 2.5}$	$42.5 ^{+ 1.0}_{- 1.0} ^{+ 3.5}_{- 3.3}$	$38.1 ^{+ 2.3}_{- 2.3} ^{+ 4.8}_{- 3.8}$
[4000, 5000]	$37.6 ^{+ 0.9}_{- 0.9} ^{+ 2.8}_{- 1.8}$	$41.2 ^{+ 0.6}_{- 0.6} ^{+ 2.4}_{- 1.2}$	$39.9 ^{+ 0.6}_{- 0.6} ^{+ 2.1}_{- 2.2}$	$42.9 ^{+ 0.8}_{- 0.8} ^{+ 2.7}_{- 3.0}$	$46.3 ^{+ 2.4}_{- 2.3} ^{+ 6.4}_{- 5.2}$
[5000, 6000]	$45.8 ^{+ 1.2}_{- 1.2} ^{+ 2.9}_{- 2.7}$	$44.2 ^{+ 0.8}_{- 0.8} ^{+ 3.4}_{- 1.5}$	$42.0 ^{+ 0.8}_{- 0.8} ^{+ 2.5}_{- 2.4}$	$39.7 ^{+ 1.0}_{- 1.0} ^{+ 3.1}_{- 3.1}$	$52.2 ^{+ 4.6}_{- 4.2} ^{+ 7.9}_{- 7.8}$
[6000, 7000]	$38.7 ^{+ 1.2}_{- 1.2} ^{+ 2.9}_{- 2.3}$	$42.0 ^{+ 0.9}_{- 0.9} ^{+ 3.4}_{- 2.0}$	$40.8 ^{+ 1.0}_{- 1.0} ^{+ 2.9}_{- 2.5}$	$40.2 ^{+ 1.5}_{- 1.4} ^{+ 3.8}_{- 2.6}$	$61 ^{+ 14}_{- 11} ^{+ 19}_{- 12}$
[7000, 8000]	$41.7 ^{+ 1.6}_{- 1.6} ^{+ 4.5}_{- 2.6}$	$35.9 ^{+ 1.0}_{- 1.0} ^{+ 3.1}_{- 2.5}$	$36.9 ^{+ 1.2}_{- 1.1} ^{+ 3.0}_{- 2.5}$	$42.3 ^{+ 2.3}_{- 2.2} ^{+ 5.5}_{- 4.2}$	
[8000, 9000]	$39.0 ^{+ 1.8}_{- 1.7} ^{+ 4.6}_{- 3.1}$	$40.3 ^{+ 1.5}_{- 1.4} ^{+ 3.9}_{- 3.2}$	$50.0 ^{+ 2.0}_{- 2.0} ^{+ 4.9}_{- 5.1}$	$51.8 ^{+ 4.2}_{- 4.0} ^{+ 9.3}_{- 8.5}$	
[9000, 10000]	$51.1 ^{+ 2.8}_{- 2.8} ^{+ 6.0}_{- 3.1}$	$34.3 ^{+ 1.5}_{- 1.5} ^{+ 3.1}_{- 2.2}$	$40.9 ^{+ 2.1}_{- 2.1} ^{+ 3.4}_{- 2.8}$	$40.2 ^{+ 5.5}_{- 4.8} ^{+ 6.1}_{- 5.5}$	
[10000, 11000]	$41.4 ^{+ 2.7}_{- 2.7} ^{+ 2.1}_{- 2.1}$	$37.1 ^{+ 2.1}_{- 2.1} ^{+ 2.6}_{- 1.6}$	$35.5 ^{+ 2.5}_{- 2.5} ^{+ 2.8}_{- 1.2}$	$43 ^{+ 12}_{- 9} ^{+ 11}_{- 5}$	
[11000, 12000]	$40.1 ^{+ 3.3}_{- 3.2} ^{+ 2.4}_{- 2.4}$	$37.3 ^{+ 2.6}_{- 2.6} ^{+ 3.0}_{- 1.3}$	$43.4 ^{+ 3.9}_{- 3.7} ^{+ 3.7}_{- 1.7}$		
[12000, 13000]	$42.5 ^{+ 4.1}_{- 3.8} ^{+ 4.3}_{- 1.2}$	$28.4 ^{+ 2.6}_{- 2.5} ^{+ 2.5}_{- 0.9}$	$42.6 ^{+ 4.7}_{- 4.6} ^{+ 2.5}_{- 2.5}$		
[13000, 14000]	$31.4 ^{+ 4.0}_{- 3.9} ^{+ 3.3}_{- 1.0}$	$46.5 ^{+ 4.7}_{- 4.5} ^{+ 4.7}_{- 1.5}$	$35.5 ^{+ 5.5}_{- 5.4} ^{+ 2.8}_{- 2.7}$		
[14000, 15000]					

Table 18. The ratios of differential production cross-section-times-branching-fraction for prompt D_s^+ and D^{*+} mesons in bins of (p_{T}, y). The first uncertainty is statistical, and the second is the total systematic. All values are given in percent.

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The LHCb collaboration

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